5: Jochelson A-5 (1910-11) 1928 Kamchadal

CHAPTER III

THE COUNTRY AND SOMATOLOGY OF THE KAMCHADAL

GEOLOGICAL PAST OF KAMCHATKA

193
172

Professor Obruchev[1] says that at the end of the Miocene Epoch the western shore of Kamchatka was sinking, and Professor Bogdanovich[2] supposes that during the Pliocene Epoch a considerable part of the present western and eastern shores of the peninsula were still covered with water. The beginning of the Quaternary, says Obruchev, evidently formed a continental phase which set in after the sinking phase of the Mio-Pliocene Epochs; the land in Siberia reached its maximum extension; the Bering Strait did not exist as yet, and the Chukchee Peninsula was connected with Alaska, and therefore the northeast of Siberia must have had a milder climate than at present. But all these are geological periods which preceded the appearance of man.

The Pleistocene Epoch, which is associated with the existence of man, may be proved in the valley of the Kamchatka River, according to Bogdanovich, by the frequent occurrence of remains of the mammoth and the *Bison priscus*. But nothing is said about the remains of man. In many places of Siberia man was contemporaneous with the mammoth, but there is a question whether the same was true in Kamchatka. About the end of the Pleistocene Epoch, says Bogdanovich, there was an extensive glaciation in many places of Kamchatka.

These climatic changes do not interfere with our theory of the migration to America of the Siberian-Americanoid tribes, including the Kamchadal, in one of the Interglacial Epochs, and of their remigration to northeastern Siberia after it was released from the ice.

But especially on the Kamchatka Peninsula must it be noted that our theoretical considerations are proved by archæological evidence.[3] No artifacts of the palæolithic man were discovered by the author on Kamchatka, and it is possible that no man lived during the old stone age on the Kamchatka Peninsula. It remains, however, for the future to prove or disprove it. In order to clear up my doubts in this respect I communicated with my friend the Russian geologist, Professor I. P. Tolmachoff, now curator of the Department of Invertebrate Palæontology of the Carnegie Museum, Pittsburgh, Pennsylvania. He is well known by his explorations in northeastern Siberia. He writes that it is hardly proper to conclude that man lived in the Kamchatka River valley in the Pleistocene Epoch on the only ground that remains of mammoth and *Bison priscus* were found there. Mammoth and man very often were neighbors but, as it seems, this dependence

[1] W. A. Obruchev, *Geologie von Sibirien*, Berlin, 1926.
[2] Karl Bogdanovich, *Geologische Skizze von Kamtschatka*, Petermann's Mitteilungen, Band 50, 1904, pp. 66, 198, 217.
[3] Waldemar Jochelson, *Archæological Investigations in the Aleutian Islands*, Pub. No. 367, Carnegie Inst. Wash., 1925. *Idem*, *The Ethnological Problems of Bering Sea*, Natural History, Jour. Amer. Mus., Jan.–Feb., 1926, vol. xxvi, No. 1, pp. 90–95.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

was not necessarily mutual. Man might follow the mammoth in order to hunt him, but the mammoth had no need of man. Thus the remains of mammoth do not indicate that man lived in the same place, if there is no direct proof of it. However, the presence of the mammoth may postulate to climatic conditions fit for man to live in, and it remains for the future to find remains of the palæolithic man; but for the time being one may be right to hold to the theory of the peopling of Kamchatka in Recent Times, especially since no palæolithic artifacts were discovered in my excavations, and I feel authorized to say that the late peopling of Kamchatka may corroborate the theory of the reemigration of the Siberian Americanoids from America after the last glaciation subsided. To be fair, however, I must add that I had no time to make excavations in the Kamchatka River valley and that no regular excavations were made in the territory of the other Americanoids—the Koryak, Chukchee and Yukaghir.

GEOGRAPHY AND ADMINISTRATIVE DIVISIONS

The country of the Kamchadal—or the part of the Kamchatka Peninsula to the south, from the Amanino village to the west, and Osernaya River to the east—was a part of the Primorskaya Province. In 1909 a new province of Kamchatka was created, which included 6 districts: Okhotsk, Gishiginsk, Anadyrsk, Chukotsky, Commandor Islands and Petropavlovsky. The last district is the territory of the Kamchadal. The city of Petropavlovsk was made the capital of the province and the seat of a newly appointed Governor.

The former Territory of the Kamchadal is inhabited by 8,037 people, of which 3,370 are Russians, 3,555 Kamchadal, 802 immigrated reindeer Koryak and Tungus and 300 Chinese, Koreans and Japanese. There were also 10 Europeans and Americans.[1]

The Kamchadal have become Russianized and only the inhabitants of seven villages (between Amanino and Sopochnoye) of the western coast have preserved their native language—the western dialect of the Kamchadal language—and the inhabitants of the village Sedanka on the Tighil River speak the northern dialect. There were formerly four Kamchadal dialects, and at present even the Kamchadal, who speak two dialects, use more of a Russian-Kamchadal slang than the pure Kamchadal. The younger generation is learning Russian in the schools, and soon the Kamchadal language will be forgotten entirely, as was the case with the dialect of the Kamchatka River and with the southern dialect, which was spoken between the Great River (Bolshaya Reka) and Lopatka Cape. While the northern dialect of the Kamchadal on the Tighil River contains many Koryak words, the southern dialect had an intermixture of Kurilian words. Krasheninnikoff called the southern Kamchadal people Kurilians.

The Kamachdal had been and still remain a genuine fishing tribe. They did not adopt from their Koryak neighbors the reindeer, although they were

[1] According to official data of 1911. During the summer fishing season, Kamchatka's shores have many thousands of temporary dwellers. Russians who operate canneries and salteries bring thousands of laborers. The number of Japanese fishers at the time of my stay in Kamchatka was estimated at more than 10,000. About 200 Japanese schooners were lying near the shores and about ten Japanese steamers were coming from and leaving for Japan. According to the convention concluded after the Russian-Japanese War the Japanese were authorized to fish everywhere in Kamchatka waters except bays and river-mouths, but by bribing the guards they used to fish also in the inner waters.

hunting the wild Kamchatka variety of reindeer.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

141

	Men		Women	
	Average	Stand. dev.	Average	Stand. dev.
Stature	1,597 mm.	5.4	1,495 mm.	4.8
Length of head	168 mm.	6.8	163 mm.	5.7
Width of head	149 mm.	5.7	144 mm.	4.8
Cephalic index	78.9	2.9	78.5	2.7
Width of face	144 mm.	5.7	137 mm.	4.3
Cephalic facial index	96.5	3.3	94.9	3.0

141 764 172 The Kamchadal, prior to embracing Christianity, threw away their dead to be devoured by dogs, and therefore no skeletal remains were found while excavating prehistoric sites. Only in one pit on the mouth of the River Kavran were prehistoric human bones discovered, and among them were two skulls in good condition for measurement.[1] One of the skulls seemed to be that of a woman, the other of a man. The length of skulls was 177 mm. and 188 mm., the width 136 mm. and 143 mm. and consequently the indices 76.9 mm. and 77.9 mm. According to Broca 2 units may be added to the cephalic index of skulls to obtain the cephalic of the living. Adding 2 units to 76.9 and 77.9 mm. we have 78.9 mm. and 79.9 mm., figures nearly equal to averages of the cephalic index of the present-day Kamchadal.

Plate 1 shows photographs of Kamchadal men, women and young girls. Plate 2, figure 1, represents elders of some villages of the western shore of Kamchatka.

SANITARY CONDITIONS AMONG THE KAMCHADAL

164 177 836 732 The Russian conquerors have exercised a disintegrating influence on the family life of the Kamchadal. Among the Kamchadal, unchastity has been more or less common in the case of girls before marriage and of women after marriage. The Russians made liberal use of this custom and in this manner syphilis brought by them was widespread among the Kamchadal. This contagious illness resulted in different inherited diseases. In twenty-six villages of the western coast of Kamchatka, out of a population numbering 2,500, 250 people (i.e., 10 per cent) were, according to my census in 1911, cripples (blind, deaf-mute, humpbacked, lame persons and so forth); particularly were there many blind people, an average of 1 per cent, and half of the population was suffering from eye diseases. Plate 2, figure 2, shows a photograph of 11 blind men and women of the village Kharyusovo, which has 200 inhabitants; i. e., 5.5 per cent of the population are blind.

164 177 These observations refer to the year 1911 and it would be fair to relate observations of later years.

Dr. Shirokogoroff,[2] basing his statement on a recent (1919–1920) medico-statistical survey by Dr. Puxov who put his material at his disposal, says that some

[1] One skull was discovered on the Kuril Lake (see p. 62), but it was not in good condition for measurements.

[2] S. Shirokogoroff, *Northern Tungus Migrations in the Far-East*, The Journal, North China Branch, Royal Asiatic Society, vol. LVII, 1926, p. 174.

CHAPTER V

METALS IN THE PREHISTORIC KAMCHATKA

In the beginning of the seventeenth century the Japanese Government prohibited all navigation beyond its home waters, and before the Russians conquered Kamchatka the Kamchadal were not acquainted with the use of metals. However, there is no doubt that some iron instruments and other Japanese goods had reached Kamchatka through the Kurilians, even before the Russian invasion. Mr. Torii says that the Japanese never traded directly with Kamchatka, as contended by Bogoras.[1] The Japanese, according to Torii, exchanged their goods with the Ainos of Yezo. The latter sold them to their Kurilian kin at the regular fairs on the Island Rasava, and the Kurilians delivered them to the Kamchadal and the Kamchadal brought them to the Koryak and Chukchee. Thus the Kamchadal got from the Kurilians swords, needles, iron pans, cotton stuff, dresses made of bark fiber, armors, plumb and silver earrings, belts with silver buckles, in exchange for fur-skins, before the Russians introduced metallic objects to them. In the excavations in many pits on the shores of the Kuril Lake, I found brass coins of the eleventh century, according to the decision of Professor Koganei, to whom I showed the coins. As the coins were only of one period we may draw the conclusion that at that period the Japanese trade with Kamchatka, through the Aino-Kurilian intermediary, was quite extensive.[2] The old Japanese coins had a hole in the center and it might be that Kamchadal women wore them as ornaments.

However, these trivial borrowings from the Japanese culture were quite insignificant and scanty and the real transition from the neolithic period to a metallic stage had taken place under the influence of the Russians, who brought to Kamchatka iron, copper, bronze and silver instruments, vessels and ornaments.

It was not so in central and western Siberia. There the Russians found old seats of metallic production. As the Russian invaders were chiefly warriors and not artisans they had to have recourse in their needs to native metal workers and iron smelters.

METALS IN SIBERIA

Siberia, as we have said, was acquainted with the use and manufacture of metallic objects, reduction of metals from their ores and making alloys before the Russian conquest. But the historical development of metallurgy in some places of Siberia was different from that of Europe.

[1] See Waldemar Bogoras, *The Chukchee*, p. 54.
[2] According to Krasheninnikoff (vol. II, p. 49, in Russian) the Kamchadal called a needle "shish" and the Japanese as procurers of needles "shishaman."

[Pp. 22-36 have not been included in the file --Analyst]

CHAPTER VI

ARCHÆOLOGICAL REMAINS FROM THE KAMCHATKA EXCAVATIONS

SOURCE MATERIAL FOR STONE IMPLEMENTS

324 The following is a list of minerals of which the Kamchadal manufactured their stone implements and weapons. The minerals are given in the order of their diminishing hardness:

1 Flint
2 Hornstone schist
3 Quartz schist
4 Quartzite
5 Jasper (variety of quarts)
6 Chalcedony (agate)
7 Andesite
8 Obsidian, andesitic
9 Augite, andesitic
10 Porphyrite
11 Sandstone
12 Quartz slate
13 Marble
14 Slate
15 Red ocher
16 Volcanic tuff
17 White clay

171 While on the Aleutian Islands[1] no flint implements were found, a considerable
324 number of arrow heads and other implements excavated by the author in Kamchatka were made of flint, according to the determination of a mineralogist, Professor A. G. Titov of the University of Moscow. The Aleut used andesite, instead of flint, most frequently for stone implements; the Kamchadal very seldom used this material, preferring the massive varieties of quarts and, partly, obsidian.

Soapstone, of which the Eskimo manufacture their lamps, is not met in Kamchatka and the Kamchadal use harder minerals for lamps, as will be seen later.

● 172

LOCALITIES WHERE EXCAVATIONS WERE MADE

The present writer made excavations in the following places:

(1) On the shore of Salt Lake on the isthmus in the Avacha Bay, August 19, 1910.
(2) In the Bogatyrevskaya Bay, above Salt Lake, in the forest, August 20, 1910.
(3) Cup-like holes were excavated not far from Salt Lake in afternoon of the same day.
(4) On the slope of the hill on the northeastern side of the Bogatyrevskaya Bay, August 21, 1910.
(5) In the village Syeroglaska, 10 miles from Petropavlovsk, August 25, 1910.
(6) In the village Savoiko, August 29–30, 1910. Savoiko is located on the left bank of the Avacha River, 16 miles from its mouth. Formerly it was called Stary Ostreg and renamed Savoiko after the Governor of Kamchatka (1850–1855), the senior captain and later admiral, V. S. Savoiko.

For numbers 1 to 6, see map of the Avacha Bay (p. 42).

(7) On the bank of the Nalacheva River, September 19.
(8) On the shores of the Nalacheva Lake, September 20 to 24, 1910.
(9) On the Nalacheva Cape, September 26–30, 1910.
(10) Ancient site on the mouth of Kulki River, emptying itself into the Tighil River, 4.6 miles from its mouth, June 10, 1911.
(11) Ancient site on the mouth of Kavran River, June 27 to July 6, 1911.
(12) On the bank of Osernaya River, 2 miles from Kuril Lake, August 6, 1911.
(13) On the Siwusk Cape in Lake Kuril from August 9 to August 14, 1911.

[1] W. Jochelson, *Archæological Investigations in the Aleutian Islands*, p. 58.

[pp. 38-40 have not been included in the file -- Analyst]

5: Jochelson A-5 (1910-11) 1928 Kamchadal

172
262

Of the above localities, Numbers 1 to 12 yielded the following sites:

SITE 1

On a hill above Salt Lake there were several pits, which could not be noticed at first sight as they were covered with an abundant overgrowth of the shelamainik (*Filipendula kamtschatica* Max.) and horse-tails (*Equisetum heleocharis* Ehrh.) 6 feet high. The staple food of the old Kamchadal fishers consisted of different salmon species, the bones of which in decaying formed an excellent fertiliser for the soil. In my work on the Aleutian archæology I pointed out that no bones of salmon were found in excavations of ancient village sites on the Aleutian Islands, contrary to the statements of Dr. Dall for the Aleutian Islands and Professor Emile Rivière, cited by Professor MacCurdy, concerning finds in a cave near

Avacha Bay
1. Salt Lake.
2. Bogatyrevskaya Bay.
3. Isthmus above the Salt Lake.
4. Slope of hill on the northeastern side of Bogatyrevskaya Bay.

2

Menton, France.[1] In his *Human Origin*, Professor MacCurdy[2] cites Mr. Abbo as having found on a skeleton excavated in Verneau, France, perforated salmon vertebræ, evidently worn as ornaments. It would be interesting to determine whether the vertebræ were really of salmon, and not of some other species of fish. As I have stated, the soft bones of *Salmonoidea*, which ascend rivers and fresh-water lakes for spawning, decay rapidly, falling to pieces in 2 or 3 years.

Professor R. Torii[3] referring to remains of food found in his archæological excavations in Manchuria tells of fish bones, the species of which could not be determined because they were only a heap of powder. These were undoubtedly salmon bones.

[1] Waldemar Jochelson, *Archæological Investigations in Aleutian Islands*, p. 139; W. H. Dall; *On Succession in the Shell Heaps of the Aleutian Islands*, Contributions to North American Ethnology, vol. 1; Washington, 1877, pp. 41-91; G. G. MacCurdy, *The Field of Prehistoric Art*, American Anthropologist, vol. 26, No. 1, Jan.-Mar., 1924, p. 41.

[2] George Grant MacCurdy, *Human Origins*, vol. 1, p. 262.

[3] R. Torii, *Populations Préhistoriques de la Mandchourie Méridionale*, Jour. College of Science, Tokyo Imperial University, 1913-1915, vol. XXXVI, Art. 6, p. 48.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

172 As it was not an easy piece of work to cut away the heavy stalks of the coarse vegetation, we excavated only one pit, in which but few specimens were found. The hill was 9 feet high over the lake. The pit, after the vegetation was cleared, was 5 feet deep. Then followed a 3-foot layer of dark mold and a layer of yellow clay without any trace of cultural remains. No unperishable remains of building material were found. Specimens found in the mold layer were:

(1) A piece of rude pottery (2157).[1]
(2) A stone implement, not finished (2158).
(3) A stone hammer (2159).

SITE 2

There were 4 pits over the lake. The layer of mold was very thin and yielded only two specimens:

(1) A fragment of a stone lamp (2160), very primitive.
(2) An obsidian arrow point, not finished (2161).

SITE 3

Not far from the lake, right over the sea, about 3 feet high were many circular shallow pits on the flat gravel in which no cultural remains were found. My Kamchadal laborers could not explain the origin of these pits. They are probably traces of round tents of a military camp of the European allies who landed in Kamchatka during the Crimean war.

SITE 4

There were several pits with remains of burnt wood and stones in the dark soil, to the depth of 3 feet, but no other refuse. A yellow sand formed the base of the pit.

SITE 5

A pit was excavated to the depth of 4.5 feet. A layer of 3 feet contained cultural remains. There were found charcoal, burnt stones, bones of seals and shells of mollusks (*Katharina tunicata* Wood and *Modiola modiolus* L.) and the following specimens:

(1) A flint arrow point (2162).
(2) A polished marble object resembling a labret (2163), but it must be noted that no labrets were used as personal ornamentations by the ancient Kamchadal.
(3) A stone ax.

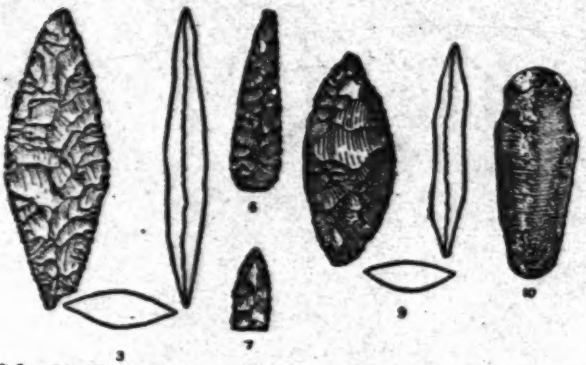
SITE 6

Two pits were excavated near the village Savoiko.

Pit A: The depth before digging was 3 feet 8 inches and a shaft was cut 5 feet 2 inches deep. The layers were as follows:

(1) Yellow sand covered with grass, 1 foot high.
(2) Volcanic ash, 5 inches deep.
(3) Fine gravel, 1 to 2 inches.
(4) Dark-brown sand with roots of plants, 2 feet 7 inches.
(5) Black soil with organic remains, 2 inches.
(6) Brown sand, 1 inch.

[1] The catalogue number is shown in parenthesis.



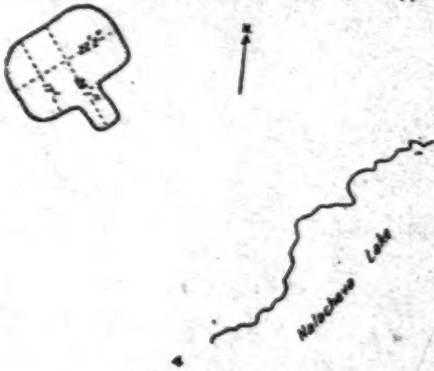
3. Laurel leaf-like blade of dark greyish flint.
6. Arrow blade of green jasper.
7. Arrow flint blade.
9. Blade of black obsidian.
10. Stone pestle of quartz slate.

All of Nalacheva Lake.

Pit B: Length, 24.7 feet; width, 22.2 feet. The entrance was directed to the east. We excavated 6 feet 7 inches deep until a single layer appeared. Separate layers were:

(1) Organic remains and roots of plants, 2 feet.
(2) Gray sand and volcanic ash, 2 feet 6 inches.
(3) Yellow sand, 2 feet 1 inch.

Pits A and B yielded the following finds: 1 stone ax (2165); 1 obsidian arrow or harpoon point (2166); a piece of pottery (2167); a laurel leaf-like blade of dark greyish flint with fine trimming on both sides. Length, 91 mm.; greatest width, 32 mm.; thickness, 11 mm. (see fig. 3, 2168); a stone arrow not finished; and two stone hammers (2170 and 2171).



4
Pit No. 1, Nalacheva Lake.

SITE 7

My party left Petropavlovsk on horseback on September 13 at 12.30 afternoon and reached the village Khalakhtyrka at 6 in the evening. The route lay through a low ridge and by the shore of the Khalakhtyrka Lake. The last 1.3 miles we moved along the Khalakhtyrka River, a most picturesque country. We passed the night in Khalakhtyrka village. A stone celt found while building a

5: Jochelson A-5 (1910-11) 1928 Kamchatka

172 blockhouse was given to me (2209). We left Khalakhtyrka in the morning of September 14. We, and our laborers, had to walk, as I could get only four pack horses for our freight, and the horses and drivers from Petropavlovsk had to return to that place. When it became dark we put up our tents and stopped for the night, only 1.3 miles from the Nalacheva River.

In the morning of September 15 we left our camp, and about 3 o'clock in the afternoon crossed the river in two small boats. Usually one boat is left on each bank for the use of travelers. You cross the river in the boat, taking a part of your freight with you, and coming back with two boats you carry over the remaining freight and passengers. There are also some planks leaning on trees, by which you can bridge the two boats in order to take over heavy freight or to cross more safely. The river is quite wide and has a strong current. The horses, freed from their pack or riding saddles, are driven into the river and forced to swim across. After crossing the river the travelers have to return both boats to their proper places.

On September 16 we passed the sites on the Nalacheva River and between the river and Nalacheva Lake. September 17 to 19 we excavated two sites on the Nalacheva River, one 6 feet 2 inches deep, the other 4 feet 7 inches deep. In none of them were artifacts found, except burned stones in the center—traces of former hearths.

On the shores of the Nalacheva Lake excavations were made on September 20 to 24, 1910. Traces of pit-dwellings[1] were discovered all around the lake, showing that the place had been densely populated.

Pit No 1 was 3 feet 10 inches before digging (fig. 4). The hearth, 1 foot deep after digging, was opposite the entrance passage. In the corners of the northeastern side burned wood was found instead of posts. On the west, in a hole 2 feet deep, a rotten post, the lower end of which had been partly preserved, was still standing. The entrance passage was 10 inches deep before digging. The pit was covered with the grass of meadow-sweet (*Filipendula kamtschatica* Max.), spear-grass (*Calamagrostis langsdorfii* Trin.) and *Pleurospermum kamtschaticum* Hoffm. of the Umbelliferæ.

The distances between the inner posts were 6 feet and 7 feet 2 inches. The following artifacts were found:

(1) A fragment of an obsidian arrow point, not finished (2194).
(2) A stone arrow point (2194).
(3) A stone arrow point, not finished (2195).
(4) Five fragments of pottery.

Pit No. 2 (fig. 5) was 16 by 15 feet. The length of the entrance passage was 8 feet. Before digging the depression was 4 feet, and the pit was excavated to a

[1] The sketches of the depressions, the outward evidences of ancient underground dwellings, are given in a somewhat irregular form, as they were drawn by the writer in the field. The irregular configuration of the cavities may be explained by the falling in of parts of the earthen walls.

172 depth of 1.5 feet only. Yellow sand without cultural remains followed. The following artifacts were discovered:

(1) Fig. 6 (2206). An arrow blade of dark green jasper, with a rounded base, well finished, the point being broken off. Length, 55 mm.; greatest width, 15 mm.; greatest thickness, 11 mm.
(2) Fig. 7 (2207). A fragment of a small obsidian point, similar to an Aleut surgical lancet.[1]
(3) A fragment of the lower part of an obsidian arrow point (2208).
(4) A stone celt (2210).
(5) A piece of pumice for polishing stone implements (2211).
(6) Fragments of two clay pots.
(7) In the entrance passage a piece of pottery with an inside ear was found.

In the morning of September 21, 1910, the temperature was 3° C.; in the afternoon snow was falling.

II
Pit No. 3, Nalacheva Lake.

II
Pit No. 4, Nalacheva Lake.

Pit No. 3 was 2 feet 5 inches deep before digging, and was excavated to the depth of 4 feet. The following artifacts were discovered in this pit (fig. 8):

(1) An arrow point of rock crystal (2192).
(2) A fragment of a stone celt (2191).
(3) A stone celt (2205).
(4) A stone arrow point (2197).
(5) An obsidian arrow point in the form of a laurel-leaf, black with red veins. Length, 64 mm.; greatest width, 27.5 mm.; greatest thickness, 9 mm. Illustrated in fig. 9 (2198).
(6) A whetstone for grinding and polishing (2199).
(7) A stone chisel (2200).
(8) Fig. 10 (2201). A polished cylindrical pestle of grayish quartz slate for grinding paints or possibly food, made of edible plants mixed with animal fat or oil. Near both ends of the implement traces of pecking with a hammerstone may be seen, perhaps for making grooves. Length, 62 mm.; greatest diameter, about 23 mm.

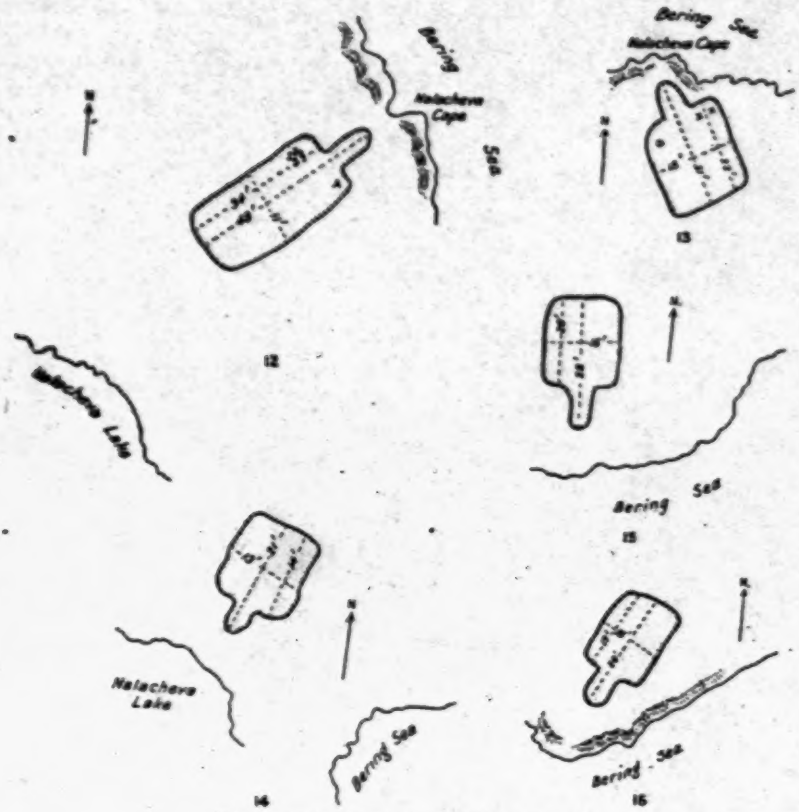
Before digging, Pit No. 4 was 4 feet deep, and it was excavated to the depth of 7.5 feet (fig. 11). Artifacts discovered were:

(1) A stone celt (2202).
(2) A piece of rock crystal with traces of an arrow point (2203) having been manufactured from it.
(3) A small obsidian arrow point (2204).

At Site 9, on the Nalacheva Cape, diggings were made on September 26 to 30, 1910.

[1] W. Jochelson, *Archæological Investigations in the Aleutian Islands*, p. 66, fig. 16.

5: Jochelson A-5 (1910-11) 1928 Kamchadal



Figs. 12 to 16, showing Pits 1 to 5 on Nalachevo Cape.

Pit No. 1 before digging was 2 feet 6 inches deep and was excavated to the depth of 3.5 feet. In the right corner from the entrance there were found hearth stones and on them were some shells of the mollusk *Mytilus edulis* L.; a broken clay pot was also found. The following artifacts were discovered in this pit:

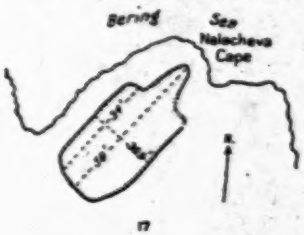
(1) A flat obsidian arrow point (2178).
(2) A fragment of such a point (2179).
(3) A small obsidian arrow point (2180).
(4) A piece of obsidian in process of arrow making (2181).

Before digging, pit No. 2 was 2 feet 4 inches deep and the excavation was carried to the depth of 4 feet. X (fig. 13) shows the place where a complete clay pot with

St Jochelson A-5 (1910-11) 1928 Kamchadal

172 handles inside was found; O, where fragments of another pot were found. The diameter of the rim of the complete pot was 1 foot 6.25 inches, of the bottom 11 inches, and the height of the pot was 8 inches. The pot was discovered at a depth of 3 feet 4 inches. The pit before digging was covered with *Empetrum nigrum* L., *Epilobium angustifolium* L., bushes of the wild rose (*Rosa acicularis* Lindle), the fern (*Cryptogramme acrostichoides* R. Br.) and other plants, and it took much time to clean the pit before digging. The following stone artifacts were found:

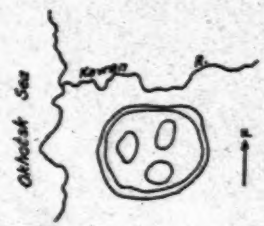
(1) Two rudely made arrow points of quartz (2172).
(2) Four obsidian arrow points.



17

21

20



23

17. Pit No. 6, Nalacheva Cape.
20. Sketch of Nalacheva Lake and Cape.
21. Sketch of ancient site of Kulki River.
23. Sketch of ancient site of Kavran River.

The depth of Pit No. 4 before digging was 2 feet 4 inches and it was excavated to the depth of 3.5 feet. Only two obsidian arrow points were found (2184, 2185).

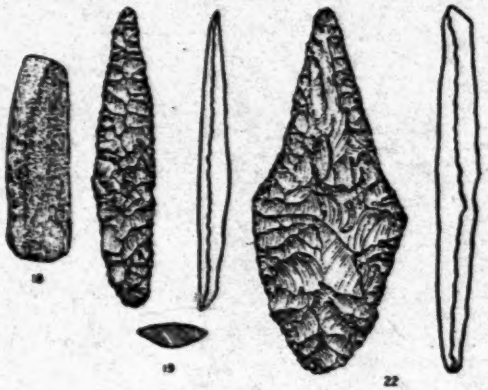
Pit No. 5 before digging was 2 feet 2 inches deep and excavation was done to the depth of 3 feet 8 inches. Artifacts found were:

(1) A stone celt (2187).
(2) An obsidian arrow point, not finished (2188).
(3) A fragment of a thin obsidian arrow point.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

● 172 The depth of Pit No. 5 before digging was 3.5 feet and it was excavated to a depth of 3.5 feet. The following artifacts were found:

(1) Five fragments of a clay pot, 2 with ears inside (2214).
(2) A broken stone ax.
(3) Three pieces of pumice for polishing stone implements (2216).
(4) Fig. 19 (2222) a-c. A flint blade for an arrow or throwing dart. Judging by the assymetrical curving it is not finished. Length, 90 mm.; greatest width, 19 mm.; greatest thickness, 7 mm.
(5) A fragment of a stone wedge (2225).
(6) A fragment of a stone implement (2224).
(7) Fragments of one clay pot (2239).
(8) Fragments of another clay pot (2240, 2241).



18. Chisel of quartz schist, Nalacheva Cape.
19. Flint blade, Nalacheva Cape.
22. Lance point of flint, Kulki River.

The depth of Pit No. 6 before digging was 3 feet 10 inches and it was excavated to the depth of 4 feet. Artifacts found were:

(1) A stone celt (2182).
(2) Fig. 18 (2183). A chisel of greenish gray quartz schist, polished. Length, 62 mm.; greatest width, 20 mm.; width of blade 18 mm.
(3) Three pieces of pumice for polishing stone implements.
(4) A big piece of pumice, with a hole for hanging (2226).
(5) A stone lamp (2228).
(6) Two stone sinkers (2229, 2235).
(7) A stone lamp (2239).
(8) A fragment of a stone ax (2231).
(9) A flat stone sinker (2232).
(10) A fragment of a stone wedge (2233).
(11) Eleven pieces of white clay (2234).

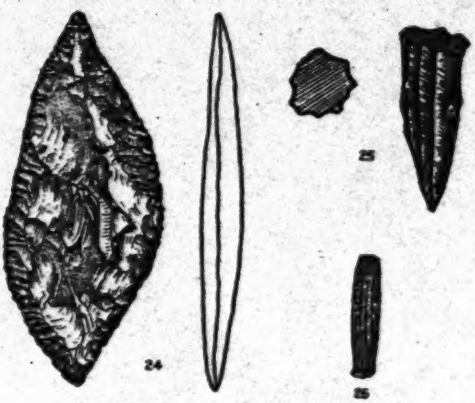
The sketch of map (fig. 20) was drawn by the son of the Governor of Kamchatka, Boris Perfilyev, a naturalist, who accompanied me on my trip to the Nalacheva region. No scale is given.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

172 The following specimens, presented by Governor Perfilyev, were found by Mr. Eckermann, a representative of a fishing company, while digging a cellar in Palan.

(1) Ten pottery fragments with traces of impression of basket work (2217).
(2) A pottery fragment with a hole near the rim.
(3) A pottery fragment with an impression of weaving (2219).
(4) An arrow point of rock crystal (2220).
(5) A fragment of a stone implement.

The Kulki River empties into the River Tighil, 4.6 miles from its mouth. The site is located 1,738 feet from the mouth of Kulki on a hill over the right bank of the river. There were traces of an earthen wall which surrounded the site. The length of the hill was 76 feet; the width, 60 feet. Inside the wall were the remains of two pits, A and B, almost circular in form. The length of pit A



24. Knife-like implement of opaque black flint. Kulki.
25. Nucleus of tawny gray flint. Kavran.
26. Flint nucleus with 12 tiny facets. Kavran.

was 36 feet and its width 25 feet; the length of pit B was 25 feet and its width 21 feet. The digging was done on June 10, 1911, and the soil was still frozen from one foot down. The earth had to be thawed out by fire piles before the digging, thus hampering the work. Some specimens were broken while spading the dirt. The following specimens were found:

(1) Fourteen stone arrow points and other implements (2690–2703). The greatest length was 114 mm.; the smallest, 55 mm. One of the weapons (2692) is illustrated in figure 24 a-b. It is a knife-like implement of opaque black flint. As both assymetrical sides are trimmed, it looks rather to be a newly finished blade of a lance. The implement is very thin for its size. Length, 114 mm.; greatest width, 49 mm.; greatest thickness, 11 mm.
(2) Eighteen pottery fragments with ornaments (2704).
(3) Fifteen stone implements (2705–2719). One of these specimens is illustrated in figure 22 (2712) a-b. It is a lance point of black flint. The stem is thicker than the point. Carefully chipped, the edges are steeply trimmed. The stem was evidently intended to be inserted into a

5: Jochelson A-5 (1910-11) 1928 Kamchadal

172 wooden shaft. Length, 110 mm.; greatest width, 47 mm.; smallest width, 10 mm.; thickness of the narrow end, 9 mm.; of the broad end, 8 mm. Fig. 22, b, shows the side view.

(4) A long stone arrow point (2723).

(5) A stone ax (2724).

(6) Three stone arrow points, not finished (2725–2727).

(7) Stone pestles (see site Kavran, 2729–2733).

173 On the right bank of the Kavran River, in 6 minutes' walk from its mouth, a site surrounded by a wall of earth was dug out. Within the wall there were three almost circular pits as shown in figure 23. According to a tradition this was the fortified place of Kulki, a strong man of Koryak origin, who used to cross the central mountain ridge of the peninsula in order to fight the chiefs of the Kamchatka valley. The digging of the site was carried to the depth of 2,247 mm., 172 the frozen soil reaching to the depth of 2,095 mm. The shaft dug represented the following layers:

1027 mm.	a layer of turf (A).
1287	clay containing (B) organic remains.
1522	charcoal, implements, organic remains and clay (C).
1797	clay containing very little organic remains (D).
2167	yellow clay (E).
2247	shingle (F).

The excavation of the site was continued from June 22 to July 10 inclusive. As the soil was still frozen it had to be thawed by burning wood, layer after layer. This, however, did not prevent the breaking by the spade of some of the artifacts while digging. Almost all of the artifacts were found in layer C, and very few of them in layers B and D. The fact that artifacts were discovered only at a certain depth bears witness of the antiquity of the site. The following objects were found:

(1) 24 stone arrow points; the largest is 100 mm. long and the smallest 21 mm. (2665–2688). Of these the following are illustrated: figure 30 (2666), a–c, a laurel leaf-like blade of black flint with some defective trimming. Length, 99 mm.; greatest width, 32 mm.; greatest thickness, 12 mm. Figure 36 (2667), a–b, an obsidian blade of a laurel leaf-like shape, nicely trimmed. Length, 48 mm.; greatest width, 17 mm.; thickness, 10 mm. Figure 29 (2668), a–c, an arrow point of black flint, with small facets and symmetrical sides finely trimmed. Length, 60 mm.; greatest width, 16 mm.; greatest thickness, 8 mm. Figure 35 (2685), a small arrow blade of black flint. Length, 21 mm.; greatest width, 10 mm.; greatest thickness, 4 mm.

(2) Fragments of pottery (2689, 2720, 2721).

(3) A stone ax of quartz limestone (2728).

(4) A lance point of tawny gray flint, rudely chipped, evidently not finished. Length, 222 mm.; greatest width, 44 mm.; greatest thickness, 40 mm. See figure 33 (2723).

(5) Five stone pestles (2729–2733) of the sites Kulki and Kavran, used for grinding food of edible plants and roots mixed with meat, fat or animal oil. The largest found in Kavran was 228 mm. long and is illustrated in figure 28 (2733) a–b. Made of quartz slate.

(6) Three fragments of Japanese porcelain cups (2746).

(7) Two pieces of iron (2745).

(8) Shells of mollusks (2747).

(9) 35 fragments of bone arrow heads (2747a).

(10) The bone part of a root digger (2748), in Kamchadal qasqar.

(11) The same as No. 10 (2749).

(12) A bone arch which served as stanchions of an ancient Kamchadal dog sledge, in Kamchadal msan. Illustrated in figure 31 (2750), 4/15 of natural size.

(13) Two bone hooks (2751, 2752). The first hook is illustrated in figure 43, 1/3 natural size; the second in figure 50.

(14) Fragments of bone implements (2753–2756).

5: Jochelson A-5 (1910-11) 1928 Kamchadal

• 172

27. Flint scraper.
28. Stone pestle of quartz slate.
29. Arrow point of black flint.
30. Laurel leaf-like blade of black flint.
31. Bone arch of an ancient Kamchadal dog sledge.
32. a-b, implement of silicified black slate.
33. Lance point of tawny gray flint.
34. Whetstone of volcanic tuff.
35. Small arrow blade.

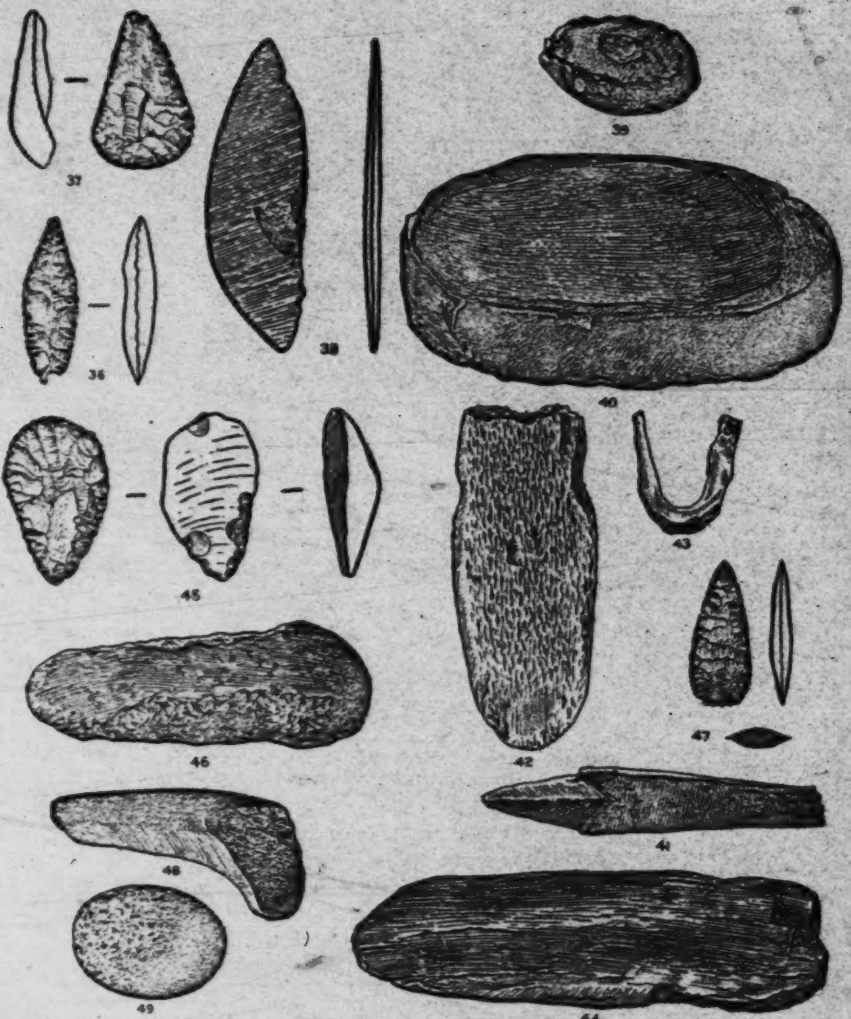
All of Kavran.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

172

(15) Two bone spades (2757, 2758).
(16) The bottom of a Japanese porcelain cup (2759).
(17) A piece of pumice (2766).
(18) A whetstone (2767), for polishing stone implements, of volcanic tuff. Illustrated in figure 34, 4/9 of natural size.
(19) 27 stone arrow points (2768–2794). Of these specimens the following are illustrated: figure 25 (2768), a nucleus of tawny gray flint from which flakes had been evidently obtained by striking with a hammerstone vertically from above; nine facets; the horizontal plane is assymetrical. Length, 49 mm.; horizontal plane, 21 by 18 mm. Figure 26 (2786), a flint nucleus of a little darker tint than the preceding one, of a cylindrical shape, with 12 tiny facets. Length, 35 mm.; the transverse plane section, 9 by 8 mm. Figure 27 (2775) a–b, a scraper of black flint, nearly triangular, slightly rounded and finely trimmed on the working edge, which has a hollow from one side. The other two sides of the triangle are irregularly trimmed and rudely chipped. The top end might serve as a graver. Greatest length, 62 mm.; greatest width, 45 mm.; greatest thickness, 13 mm. Figure 32 (2772) a-b, an implement of silicified black slate. Evidently a knife for working in wood. The straight stem might be kept as a handle or inserted in a wooden handle. The edge for cutting is somewhat curved. Length, 88 mm.; greatest width, 25 mm.; greatest width of the stem, 10 mm., thickness of the blade, 8 mm.
(20) 17 stone implements (2795–2811). Of these specimens the following are illustrated: Figure 37 (2795), a–b, scraper of black obsidian almost triangular in form, with a rounded working blade and shallow, enlongated, finger-like facets. From one side both edges are retouched, the other side has only one edge retouched. Greatest length, 47 mm.; greatest width, 31 mm.; thickness, 12 mm. Figure 38 (2801) a-b, a woman's tailoring knife, polished from both sides, similar to the Aleut-Eskimo women's knives of the same kind. There were evidently holes on the upper part for fastening to a wooden handle. Greatest length, 93 mm.; greatest width, 30 mm.; thickness, 2.5 mm.
(21) Nine stone implements (2812–2839).
(22) Six bone implements (2821–2826).
(23) Thirteen bone implements (2827–2839).
(24) Nine bone implements (2840–2848).
(25) Five bone implements (2849–2853).
(26) Nine fragments of bone implements (2854–2862).
(27) One bone implement and 12 pottery fragments (2863–2875).
(28) A stone sinker (2864).
(29) Figure 39 (2866), a drill head of quartzite, 2/5 natural size.
(30) A stone sinker (2865).
(31) A stone celt (2867).
(32) Figure 42, a bone spade (2868), 1/3 natural size.
(33) Six pottery fragments (2869).
(34) Four stone pestles (2870–2873).
(35) A bone knife for splitting the willow-herb (*Epilobium angustifolium* L.) (2874). Illustrated in figure 41.
(36) Two bone spoons (2875, 2876).
(37) Eleven stone implements: celts, arrow points and knives (2877–2887), the longer of which was an obsidian knife, length 150 mm.
(38) Figure 40 (2888), a stone for grinding paints, of quartz slate, 4/15 natural size.
(39) An obsidian celt (2890).
(40) A large stone pestle (2891).
(41) Two skulls (2917, 2918).
(42) Three stone lamps (2921–2923).
(43) A piece of a whale's lower jaw (2924).
(44) Two stone pestles (2926, 2927).
(45) A stone sinker (2928).
(46) A whetstone (2929).
(47) A stone sinker (2930).
(48) A large whetstone (2931).
(49) Figure 48 (2932), a stone hammer of volcanic tuff used in the manufacture of stone lamps and grooving stone sinkers, 1/3 natural size.
(50) A whetstone (2933).
(51) A fragment of a stone pestle (2934).
(52) Figure 49 (2935), a quartz pebble used in the game called matka, 2/3 natural size.
(53) Pottery fragments (2937).

S: Jochelson A-5 (1910-11) 1928 Kamchadal

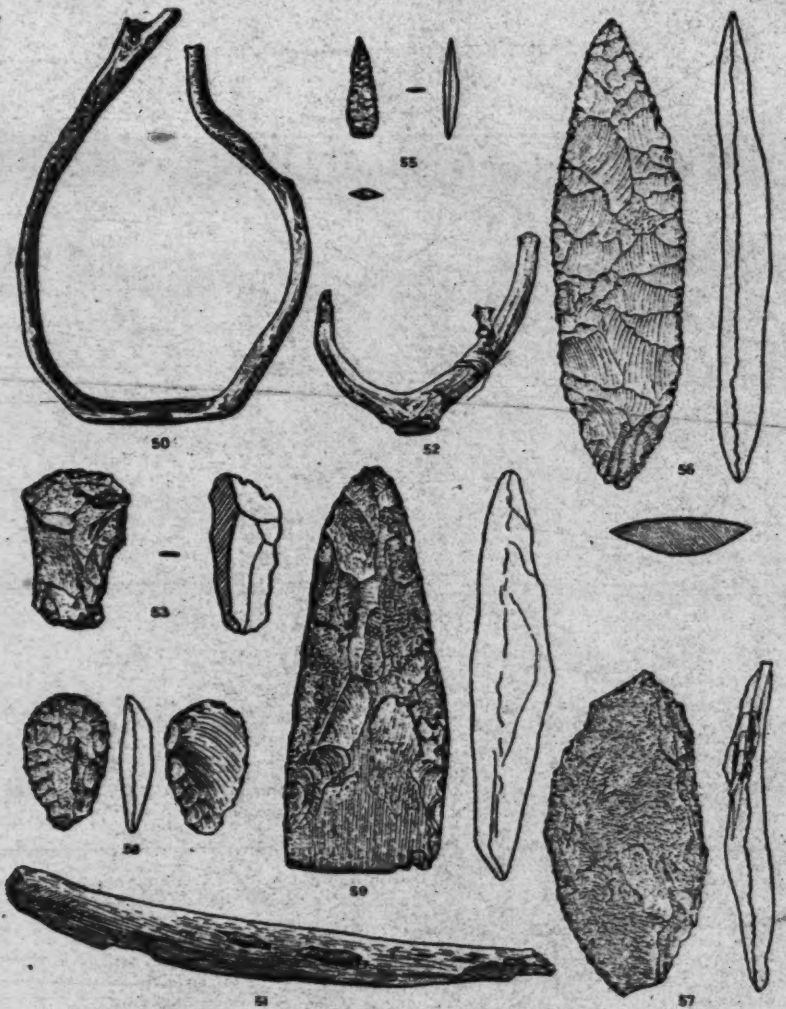


36. Obsidian blade.
37. Scraper of black obsidian.
38. Woman's tailoring knife of slate.
39. Drill head of quartzite.
40. Stone for grinding paints of quartz.
41. Bone knife for splitting willow herb.
42. Bone spade.
43. Bone hook.
44. Bone shovel for digging.
45. Obsidian scraper.
46. Stone pestle for grinding food.
47. Obsidian blade.
48. Stone hammer of volcanic tuff.
49. Quartz pebble used in game.

All specimens found at Kavran.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

● 172



50. Bone hook for hanging fish for drying. Kavran.
51. Fragment of some bone implement, much decayed, possibly a part of a sledge runner. Kavran.
52. Bone hook of reindeer antler, probably used as a root digger. Kavran.
53. Scraper-like implement of quartzite. Kuril Lake.
55. Small arrow blade of brown reddish flint. Kuril Lake.
56. Lance blade or knife of greatly silicified slate. Kuril Lake.
57. Unfinished blade of greatly silicified slate. Kuril Lake.
58. Scraper of gray dark flint. Kuril Lake.
59. Adze of quartz schist, rudely chipped, with a polished blade from both sides. Kuril Lake.

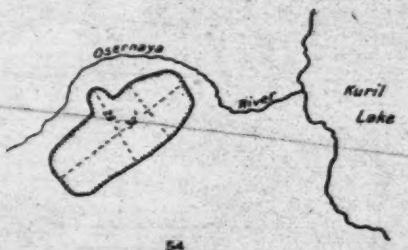
5: Jochelson A-5 (1910-11) 1928 Kamchadal

172

(54) Four ornamented pottery fragments (2940).
(55) Figure 51 (2941), fragment of some bone implement, much decayed, possibly a part of a sledge runner, 2/9 natural size.
(56) Figure 52 (2943), a bone hook of reindeer antler, probably used as a root digger, 1/3 natural size.
(57) Two handles of bone spoons (2944, 2945).
(58) Six fragments of bone implements (2946).
(59) Four fragments of bone implements (2947).
(60) Seven fragments of bone implements (2948).
(61) Four scrapers (2949).

We see from the number of specimens found (about 230), that the excavation of the Kavran site was particularly productive.

The ancient site on the bank of the Osernaya River is 2 miles from the point where it flows out to the sea from the Kuril Lake. There were several depressions of former dwellings, and we excavated the largest of these. The pit before digging was 2 feet deep. Then followed a layer of black earth more than a foot deep, after which the primeval soil consisting of gravel appeared. In the layer of black earth were found traces of a fireplace, two whetstones, two pottery fragments, one of



54

which had a handle inside, and a Japanese coin. Remains of posts were not discovered. The pit had a rectangular form like the pits on the shores of the Nalacheva Lake. Those of the Kulki and Kavran Rivers had rather a circular form.

Higher in the rocky bank over the described pit was a small depression resembling a pit. We excavated it and found a layer of mold about a foot deep in which were only a fragment of pottery, with an ear inside, and some bones of a bear.

We came to the ancient site on the shore of the Kuril Lake on August 8 and diggings were carried on from August 9 to 14. We left the lake August 16. In order to reach Lake Kuril we had to ascend the Osernaya River, flowing out from the lake into Okhotsk Sea. The river is fifty-five miles long.

175
721

The mouth of the river is connected with some historical episodes. During the Russian-Japanese War, in May of 1905, a fleet of Japanese schooners landed there with the intention of taking possession of Kamchatka. The Japanese were volunteers, numbering 150, under the command of the retired Captain Hundri Naridata. At that time there was no settlement at the mouth of Osernaya River. The Japanese put up a trenched camp, mounted their only cannon and hoisted a Japanese flag. Except the visit to Petropavlovsk by Admiral Togo's squadron,

000 My laborers were anxious to hunt bears, but I could not allow them to go on such an undertaking as the time was short and a Government steamer was expected on a certain date at the mouth of the Osernaya River to take my party to Petropavlovsk. However, I once allowed two of them to go for a night hunt and they secured a little bear cub. They cooked and ate the meat.

On the morning of our contemplated departure from Lake Kuril, when all the specimens found in the excavations had been packed, the lids of the boxes nailed down and the boats loaded, I was tempted to linger just a little longer upon seeing two she-bears playing with their cubs on the other side of a pond in the rear of the promontory. I accordingly delayed my departure until the afternoon, and singling out two of the best marksmen from my party, and equipped with a stereoscopic camera and a motion-picture camera, I started in the direction of the bears. We had to undress in order to cross the Etamenk River in the rear of the promontory, and to carry on our heads the bundles of clothing, the rifles and the cameras, so that they might not get wet. We reached the other bank of the river, dressed ourselves, and tried to pass as noiselessly as possible through the little jungle which led up to the open meadow where the she-bears were playing with their cubs.

We stopped on the outskirts of the forest and put up the cinema and stereoscopic cameras. As the bears were still too far away, I told one of my two men to make a circuit about them and frighten them from the rear so that they might come nearer to us. Both cameras were in readiness to take pictures, when suddenly at a distance of about thirty yards appeared a young black bear quietly passing by. I quickly took a stereoscopic snapshot and was about to start with my cinema, but the bear became frightened by the clatter of the falling shutter of the photographic camera and, instead of running away, rushed in our direction. We had no choice but to aim at his head and fire as he neared the camera.

After ascertaining that the bear was dead, we looked around. None of the other bears were to be seen; they had been frightened by the shooting and had disappeared. As I could not remain on the lake any longer, I had to give up the idea of another attempt to approach bears with peaceful intent. The bear that was killed appeared to be not more than three or four years old. I took the skin and the meat of a hind leg for the laborers.

We returned to our camp late in the day and were compelled to spend one more night on the promontory. Next morning, our archæological mission fulfilled, we started our journey to the sea.

● 172 The proceedings and results of the excavations were as follows: I selected for
133 digging the ancient village site on a cape or rather a small peninsula in the south-
136 western part of the lake. The Kamchadal call this cape Siwusk (see map of the lake). The village was located on the rocky extremity of the cape and on its slope near the small inner lake. The extremity of the cape rises over the lake about 16 meters. The sides of the inner lake which join the cape with the mainland are about six feet wide. From both sides of the cape two small mountain

rivers empty into the lake.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

 133

rivers empty into the lake. They are rich in migrating salmon, which ascend the Osernaya River from the Okhotsk Sea to the lake for spawning in dense masses and attract numerous bears roaming the country. 172

Eighteen pits were dug—15 on the rocky hill and 3 below, where our tents are to be seen on Plate 5, figure 1. The general depth of the culture layers was about 3 feet. The pits under the hill were larger and seemed to be more ancient than those on the hill. No iron objects were found, but they yielded numerous pottery fragments, with handles inside, but no ornamentation. The pits were located mostly on the eastern slope of the hill, over a steep standing rock, and the outer margins of the pits seemed to have fallen down. The angles of the pits were somewhat smoothed; originally, however, the pits seemed to be quadrangular in shape, with the sides from 24 to 30 feet long. On the top of the cape was one pit of larger dimensions, probably that of a communal house for gatherings and festivals; this pit yielded a small quantity of objects; the greatest number of artifacts were furnished by the smaller pits. The following artifacts were found in the pits of the Kuril site:

(1) Nine arrow points (2959–2967) of quartzite and flint, the longest being 141 mm. (Plate 6, A).

(2) Twenty obsidian arrow points (2968–2987) (Plate 6, B). The greatest length was 80 mm. and the smallest 18 mm.

(3) Seventeen stone knives and other implements (2988–3004). The largest implement was 72 mm. in length (Plate 7, figs. 1–17).

(4) Twelve stone scrapers (3005–3016); the largest was 93 mm. in length (Plate 7, figs. 18–29).

(5) Twelve stone scrapers and other implements (3017–3028), the greatest length being 97 mm. (Plate 8, figs. 1–12).

(6) Eleven stone implements (3029–3039), some of them not finished. The greatest length was 100 mm. (Plate 8, figs. 13–23).

(7) Fragments of stone implements (3040).

(8) Forty-nine stone scrapers (3041–3089).

(9) Thirteen bone awls (3090–3102) Plate 12, figs. 1–13).

(10) Thirteen bone arrow heads (3103–3115) (Plate 12, figs. 14–26).

(11) Eight bone ornaments and other objects (3116–3123).

(12) Five bone implements (3124–3128) (Plate 13, figs. A).

(13) Fragments of bone implements (3129).

(14) Six fragments of bone implements (3130–3135) (Plate 13, fig. B).

(15) Four stone lamps (3136–3139) (Plate 14, figs. 4–7).

(16) Three stone lamps (3140–3142) (Plate 14, figs. 1–3).

(17) Three stone lamps (3143–3145) (Plate 14, figs. 4–6).

(18) Remnants of weaving (3151–3152).

(19) Pottery fragments of different pits (3153).

(20) A pottery fragment; the whole height of a pot (3154).

(21) A stone lamp; the first stage of manufacture (3157).

(22) Figure 66. A stone lamp of andesitic lava in process of manufacture (3158), 4/9 natural size.

(23) A pottery fragment from Pallan. A gift from the Governor of Kamchatka (3159).

(24) Three stone lamps (3165–3167) (Plate 15, figs. 1–3).

(25) Five stone lamps (3160–3164) (Plate 15, figs. 4–8).

(26) Seven stone axes (3168–3174). The largest is 197 mm. long (Plate 9, figs. 1–7).

(27) Twelve stone axes (3175–3186). The greatest length is 152 mm. (Plate 9, figs. 8–19). One of these specimens is illustrated in the text-figure 59 (3183). It is a rudely chipped adze of quartz schist, with a blade polished on both sides. Length, 122 mm.; greatest width, 25 mm.

(28) Four stone sinkers (3187–3190) (Plate 10, figs. 1–4).

(29) A stone sinker (3191) (Plate 10, fig. 7).

(30) Two stone sinkers with holes (3192, 3193) (Plate 10, figs. 5, 6).

Jochelson A-5 (1910-11) 1928 Kamchadal

172

(31) A stone pestle (3194) (Plate 10, fig. 8).
(32) Six whetstones and one sinker (3210–3216) (Plate 11, figs. 1–7).
(33) Fifteen stone implements (3195–3209): axes, arrow points, awls and sinkers (Plate 11, figs. 8–22).
(34) Text-figure 60 (3217). A scraper of silicified slate; chipped from one side only; the curved working end is trimmed; the other side of the implement is flat with a few irregular chippings. Length, 60 mm.; greatest width, 38 mm.; thickness, 14 mm.
(35) Three pieces of pumice (3218).
(36) Four whetstones (3219).
(37) Thirteen broken stone lamps (3220–3232).
(38) Two stone axes (3233, 3234). One found near Petropavlovsk.
(39) A whetstone (3235).
(40) Paint (3236).
(41) A bone screw, double threads (3237).
(42) Ten iron and 1 copper implements (3238).
(43) Two stone hammers for chipping stone implements (3239).
(44) Different fragments (3240) of stone points.
(45) Fragments of wooden vessels (3241).
(46) A skull with the lower jaw (3242).

60 — Scraper of silicified slate.
61 — Arrow blade of white chalcedony.
62 — Scraper-like implement of silicified slate.
All specimens from Kuril Lake.

(47) Skeletal bones (3243).
(48) Two separate bones (3244).
(49) Two bone implements (3245).
(50) Pottery fragments (3246).
(51) Text-figure 61 (3247), a, b. An arrow blade of white chalcedony. General length, 67 mm.; length of the stem, 31 mm.; greatest width, 23 mm.; greatest thickness, 7 mm.
(52) Eighteen fragments of stone implements (3248–3265).
(53) Text-figure 62 (3269). A scraper-like implement of silicified slate, evidently remade from a polished adze, as shown by the polished upper part. Length, 52 mm.; greatest width, 32 mm.; height of the working edge, 18 mm.; greatest thickness, 23 mm.
(54) An obsidian arrow point (3280).
(55) Two stone scrapers (3298, 3299).
(56) Three Japanese coins of the eleventh century (3306–3308). See above, p. 37.
(57) Three fragments of ornamented bone implements (3309).
(58) A stone celt (3311).
(59) A scraper-like or some other not completed implement of quartzite. Greatest length, 45 mm.; greatest width, 48 mm.; thickness of the working end, 18 mm. Judging by the great thickness as compared with the length and width it probably may be a rejected piece, due to malformation. Text-figure 53.
(60) A small arrow blade of reddish-brown flint. Length, 31 mm.; greatest width, 10 mm.; thickness, 3 mm. (2967). Text-figure 55.
(61) A lance blade or a knife of greatly silicified slate. One side is more convex, as shown by the transverse section. Length, 141 mm.; greatest width, 41 mm.; greatest thickness, 12 mm. (2968). Text-figure 56.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

172

(62) Not finished blade, evidently intended to be subsequently elaborated into an implement of a specialized type. It might also serve as a scraper. Of greatly silicified slate. Length, 98 mm.; greatest width, 50 mm.; greatest thickness, 28 mm. (3029). Text-figure 57.

(63) A scraper of dark gray flint; one side is flat with some chippings from one edge; the other side is regularly convex with broad chippings. The working edge is rounded. Length, 41 mm.; greatest width, 26 mm.; thickness 9 mm. (3075). Text-figure 58.

(64) A stone lamp of sandstone with an ear for tying it to the sledge or canoe when traveling or hunting. 4/9 natural size (3140). Text-figure 64.

(65) A stone lamp for the dwelling, of porphyrite, 1/3 natural size (3141). Text-figure 65.

133

As stated above, we left the Kuril Lake on August 16—a quiet calm day. We crossed the lake, on the right being the rocky almost triangular Alaid Island,

823

where millions of birds were crying and rioting. The Japanese writer R. Torii refers to a Kurilian tradition, according to which in ancient times a high mountain rose where we have now the Kuril Lake. It was a handsome lady, and the neighboring summits, jealous of her, made her life unbearable by mockery and sneering, so she decided to leave Kamchatka and settled in the open sea. This became a small rocky island, Alaid (in Aino, Chachakotan), located to the northwest of the Paramushiri Island, and Kuril Lake formed in the cavity. Baron Dittmar refers to another variant of the Kamchadal tradition concerning the origin of the Kuril Lake. There was formerly a volcanic summit Alaid, which disliked its location and wandered over to the sea. In the cavity left by the mountain, the Kuril Lake originated. The mountain, however, left a piece of rock in the middle of the lake which the Kamchadal call Heart-Rock or Navel-Rock. Kuril Lake, according to Dittmar, is the second greatest lake of Kamchatka, Kronotzkoye Lake being larger.[2] Geologists explain the origin of the Kuril Lake by the sinking of an old crater. The lake now lies 200 meters above sea-level and its depth in some places reaches 300 meters.[3]

000

The trip back to the seashore took us less than a day. Our boats were speeding and leaping over the rocks of the stony bed of the Osernaya River so that we had to use poles as brakes in order not to be overturned, particularly on the dangerous curves. Hunters, who come in spring on dog sledges to the Kuril Lake to kill bears, make quite primitive boats of twig-frames covered with bear skins in order to transport skins to the mouth of the Osernaya River. These skin-boats easily glide over the rocky rapids.

As I feared, the Government steamer had left for Petropavlovsk a day before we reached the shore. It did not stop at Osernaya, passing from the western strait to Petropavlovsk through the Kuril Strait. The fall storms had begun in the Okhotsk Sea and it was dangerous for the steamer to approach the coast, which has no harbor. We might have had to remain in Osernaya for the winter if it had not been for the administrators of the saltery and cannery, who were waiting for a special steamer before closing the plants. They had already sent off on a freight steamer the imported laborers and salted and canned goods. On the next day the

[1] Torii, *Études Archéologiques et Ethnologiques: Les Aino des Iles Kouriles*, Journal College of Science, Imperial University of Tokyo, vol. XLII, Tokyo, 1919–1921, p. 39.

[2] Carl von Dittmar, *Travels and Sojourn in Kamchatka in 1851–1855*, Part I, St. Petersburg, 1901, p. 664 (in Russian).

[3] See *The Kamchatka Expedition of F. P. Richtchinsky*, Zoological Division, Part I; P. J. Schmidt, Moscow, 1910. *The Investigations of the Zoological Division in Kamchatka in 1908–1909*, Chapter XII, written by Dr. A. N. Derzhavin, one of Professor Schmidt's assistants.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

longed-for smoke of a steamer appeared on the horizon, but it cruised in the sea many miles away, as it was not safe to come near the shallow shore in the turbulent weather. After three days of waiting the storm subsided, the steamer came nearer and a large boat was despatched to take us aboard. High waves almost capsized the boat and finally did at a distance of a few feet from the shore. We saw with horror that the four sailors were covered by the boat, but in a moment they appeared from beneath it with the rope in their hands and dragged the boat to the shore. When they had dried themselves in one of the houses we trusted ourselves and our collection from Kuril Lake to the frail boat and after two hours of struggle with the sea we mounted the rope-ladder of the steamer. Never before have I had such a stormy sea passage. After 5 days of sickness, sailing through the Kuril Strait, we reached Petropavlovsk, which we left for Vladivostok several days later on the last mail steamer of the season. The following remarks concerning the finds made on the Kuril Lake and the form of sites discovered in Kamchatka in general are necessary.

From the remnants of objects of Japanese culture no inference can be made as to the age of the sites. As we saw before (see p. 62) Japanese objects, such as coins, pieces of porcelain cups and metallic artifacts, might have reached Kamchatka at a very early date. Krasheninnikoff says (I, p. 48) that the old Kamchadal knew the art of hammering fragments of metal. They did not temper iron but, placing it cold on a stone, forged it with another stone instead of a hammer. If the eye of a needle broke, they flattened the broken end and drilled a new eye with another needle.

According to Steller (p. 320), the Kamchadal paid homage to pieces of iron obtained from the Kurilians. The iron was set up on a pole in front of the dwelling as proof of the wealth and special importance of its owner. Krasheninnikoff also states (II, p. 97) that every Kamchadal possessing a fragment of iron was deemed rich and lucky.

The Kamchadal, now Russianized, no longer live in subterranean houses, replacing the same by Russian block houses, or by huts of the Yakut type, also introduced by the Russians. According to the descriptions of Krasheninnikoff and Steller, the ancient Kamchadal earth-hut had no entrance room such as the Koryak use in their underground dwellings during the summer. The Kamchadal earth-hut was only a winter dwelling. Its smoke hole in the ceiling served at the same time as a window and door, through which one entered by descending along a log with notches or holes. This was the only entrance opening, but there was, however, an underground passage in the shape of a narrow channel, for the draught, which started from the hearth and came out of the house at the side. Women, children and the so-called transformed men used to go in and out through this passage. From the illustrations of the excavated pits of ancient Kamchadal dwellings we see that the channel-passage was an indispensable part of their habitations, and we see also from illustrations that it could be directed to different cardinal points. We may only surmise the reasons for such a diversity. We know that many of

CHAPTER VII

STONE LAMPS

I discovered 36 stone lamps in excavations in Kamchatka. Some of them were broken. All the types of ancient Kamchadal stone lamps are shown in Plates 14 and 15 and text-figures 64 to 66. They are not remarkable for great diversity as to size and form. I mentioned Aleut lamps[1] longer than 310 mm., and one lamp 1 meter long. There is in the U. S. National Museum at Washington an unusually large stone lamp (No. 90476) from Kodiak Island which weighs 67½ pounds.[2] An Eskimo stone lamp 43 inches long (i. e., somewhat

64. Stone lamp of sandstone.
65. Stone lamp of porphyrite.
66. Stone lamp of andesitic lava, in process of manufacture.
All of Kuril Lake.

longer than a meter), weighing about 50 pounds is in the American Museum of Natural History of New York. Dr. Stefanson saw several larger lamps, but was unable to purchase them from their owners.[3]

The Kamchadal stone lamps show the following shapes: circular, elliptical, egg-like and sad-iron in outline. No lamps of rectangular form, like those of the Aleut, and clam-shell shaped or crescentic in outline, like those of the Eskimo of Cumberland Gulf or Point Barrow, were excavated in Kamchatka.

Lamp No. 3158 shows the cavity rudely picked out with a hammerstone in the process of manufacture. All the other illustrations of lamps show them in a finished shape and polished. The straight rims of some lamps were chiseled out with hard quartz chisels (see No. 2183). Most of the lamps are flat-bottomed, so they stand without support. The lamp was put on a wooden stand in a somewhat

[1] W. Jochelson, *Archæological Investigations in the Aleutian Islands*, p. 74.
[2] Walter Hough, *The Lamp of the Eskimo*, Annual Report, U. S. National Museum for the year 1897, Washington, 1898, pp. 1027–1037.
[3] See Vilhjamur Stefansson, *My Life with the Eskimo*, New York, 1913, p. 249.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

354
172

67

68

354
171
178

slanting position (in the sad-iron shape the narrow end was lower) so that the tallow or blubber could run down to the wick from the heat of the flame. The Kamchadal used bear's tallow or seal's blubber, and also fish oil for lighting purposes. The present Kamchadal sometimes still use stone lamps for lighting, but often a tin box, iron frying pan, or a clam-shell substitutes for the stone lamp. In order to be relieved of the sharp odor, smoke and soot of the burning lamp the present Kamchadal put over the lamp a funnel made of birch bark, upside down, the upper tube of which is led outside through the ceiling (see figures 67, 68).[1] The wick consists of a bunch of dry grass, moss or of rag placed at the edge of the slanting lamp. At present the Kamchadal women make wicks of plaited nettle threads. Like the Aleut lamps, the Kamchadal stone lamps had no bridges or special grooves for the wicks, which we find in the Eskimo lamps. The only use of the Kamchadal lamp was for lighting purposes. The Kamchadal did not warm themselves over the lamp, like the Aleut, nor cook like the Eskimo. The Kamchadal had sufficient wood for making a fire when necessary, and their hearths warmed their earth-huts and served for frying meat and cooking vegetables and soups in clay vessels. The lamp was lighted from the hearth, which was usually always burning. The hearth was covered with ashes for the night, so that the smoldering fire might not be extinguished during the night. The fire of the hearth was looked on as the protector of the dwelling, and it was regarded as an unhappy omen should it go out. Once a year, however, at the beginning of winter, the family fire was put out, the hearth cleaned from old ashes, and a new fire started by the drill and sacred fire-board. The burning stone lamps were also extinguished and lighted again from the hearth's new fire.

354
787

354
172

The Kamchadal lamps were made mostly from hard rock material, usually varieties of quarts. No lamps of soapstone, material in use among the Eskimo, were found in the Kamchatka excavations; neither were any of bone, of which the ancient Aleut made lamps. As the wick was placed by the Kamchadal at the edge of the lamp the borders of a bone lamp would have been burned off by the flame.

The cavity for oil or fat in some Kamchadal lamps represents a flat bottom with straight sides, while in others the bottom is rounded (see Plates 14, 15).

[1] Figures 67 and 68 are taken from Dr. W. N. Tyushov's book: *Along the Western Coast of Kamchatka*, Memoirs of the Imperial Russian Geographical Society on General Geography, vol. XXXVII, No. 2, St. Petersburg, 1908, in Russian, figures 28 (p. 341) and 29 (p. 342).

5: Jochelson A-5 (1910-11) 1928 Kamchadal

that they had been lamps, and not cooking pots; but this opinion may be offset by the shape, size and, especially, the depth of the pots found.[1]

Witsen, based on information received from cossacks, stated that the Kamchadal used clay vessels.[2] The Cossack Atlassov,[3] mentioned above, says in his report to the Government that the Kamchadal made pottery in his time.[4]

We see that before our excavations there were some indications as to the former pottery-making of the Kamchadal, but these were somewhat vague. Our diggings furnished more definite data concerning the Kamchadal types and methods of manufacturing pottery. We discovered two kinds of coarse clay vessels—with handles inside and with holes near the upper rim of the pots—and a kind of more elaborate ceramics with outer ornamental designs.

POTS OR PANS WITH EARS INSIDE

Fragments of pottery with handles inside were found by the writer in many diggings of the central and southern parts of Kamchatka, and he was fortunate to discover one complete pot in a pit on the shores of the Nalacheva Lake and another on the Nalacheva Cape (see Plate 17, figs. 1, 3). We may say that not only the wheel was unknown to the Kamchadal manufacturer of this rude kind of pottery, but neither the coil method nor the basket modeling process was applied by him, though there remained some impressions of basketry on the outer side. It seems that the vessels were worked out from single blocks of clay and beaten into shape. It is the crudest pottery. The dimensions of figure 1 have been given before (see p. 48). The thickness is about a third of an inch. It is difficult to say whether this kind of pottery was especially burnt before being used or was baked by the fire while cooking. The fact that these vessels remained intact after having been long buried under the ground proves that they were solidly made and water-tight. Being smeared with fat and blackened by smoke, they received a coating against water, which may be compared with the glaze of higher types of pottery. To make the clay more resistent it was tempered with sand, gravel and the hair of sables' tails.[5] The Cossack Atlassov, when presenting to the Government the tribute of the Kamchadal in sable-skins, delivered many of them without tails. In apologizing he said that the Kamchadal make boas of sables' tails and used the hair for tempering clay.

There is no doubt that the inside ears were intended for suspending the pot over the fire, as they afforded better protection to the suspending cord or thong than those outside the pan.

[1] Carl von Dittmar, *Reisen und Aufenthalt in Kamchatka in den Jahren 1827–1833*, St. Petersburg, Part 1, p. 213. Dittmar gives the following measurements of a pot: upper diameter, 12 cm.; lower diameter, 10 cm.; maximum width, 14 cm.; depth, 10 cm. This vessel, therefore, had an aperture smaller in diameter than the middle part, and its bottom was still smaller than the aperture. Clay lamps are of a quite different shape, as shown by Bogoras, Nelson and other explorers of the northern regions.

[2] Nicolaas Witsen, *Noord en Oost Tartarye*, Amsterdam, vols. I–II, 2d ed., 1705, p. 673 (1st ed., 1692).

[3] See before p. 1.

[4] See G. Spassky, *Vladimir Atlassov the Conqueror of Kamchatka*, Jour. Imperial Russian Geographical Society, 1858, vol. XXIV, p. 184 (in Russian).

[5] Munro (*Prehistoric Japan*, p. 196) supposes that grass was mixed by the Kurilians in their primitive pottery, the clay of which became black, due to the carbonization of the grass. R. Torii (*Les Ainou des Iles Kouriles*, p. 188), referring to information received from old Kurilian people, says that the ancient Kurilian Ainos tempered clay for pottery with sand and minced grass called "nokkanki."

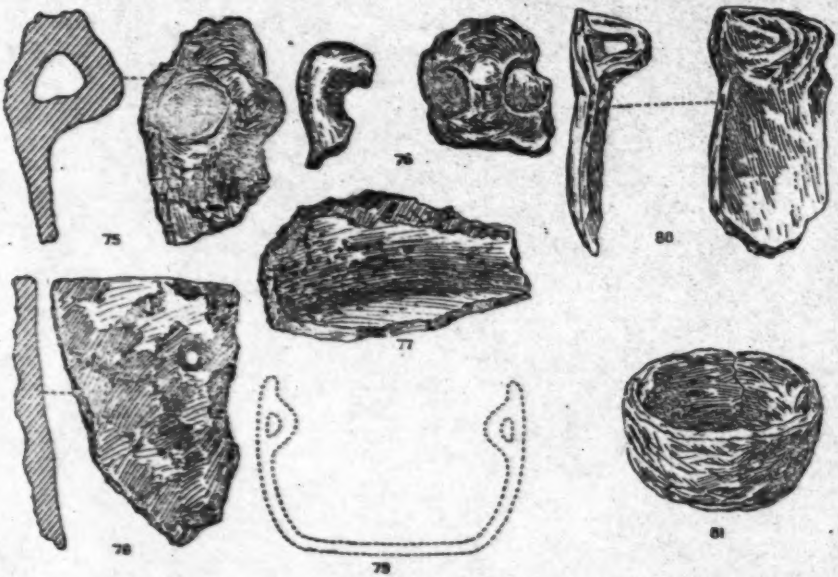
1. The end of the 17th Century -- And 1745

5: Jochelson A-5 (1910-11) 1928 Kamchadal

171
415
172

We have referred to Mr. Torii who found that the Kurilian Ainos used this kind of pottery. Mr. Mamiya Rinzo displayed a clay pan with handles inside from Yezo.[1] Mr. S. Suzuki has also shown a clay pan of rough make with the handles inside from Sakhalin Island.

The question arises as to where we may look for the place of origin of this kind of pottery: in Kamchatka or Japan. Pottery in general needs a sedentary life for its proper development. The same may be said of the primitive pottery



Fragments of ancient Kurilian pottery.

in question. It could develop among the original settlers of Japan, the Ainos, and spread to the north, to Sakhalin, Kurilian Islands and Kamchatka. The sedentary or semi-sedentary fishers of Kamchatka might have adopted it from the Kurilians.

According to Mr. N. Tanaka, "within the last 20 years earthenware pans with handles inside were in use in Musashi and the island of Hachijo."[2]

Illustrations of the following fragments of ancient Kurilian pottery are taken from R. Torii's work (*Les Ainou des Iles Kouriles*, Plate XXXIII). Figures 75 and 76 show fragments of Kurilian pottery with inside ears. Figure 77 shows a

[1] The Japanese investigator Mamiya Rinzo spent the years 1804–1817 in Sakhalin.
[2] See Munro, *Prehistoric Japan*, Yokohama, 1911, p. 196. Cited from Tokyo Jinruigaku (Tokyo Anthropological Magazine), No. 16, 1887.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

fragment of the lower part and the flat bottom of a clay vessel. Figure 78 represents a fragment of a clay vessel with a drilled hole for tying it by a cord to the hole of another broken piece of the vessel. In figure 79, Torii gives an outline of a clay pan with two ears inside. It is not clear whether there was a third ear, like that in the Kamchadal clay pots.

Figure 80 shows a fragment of ancient Ainu pottery with an ear inside, found, according to Torii, in Sapporo on Yezo. It is shown one-third natural size. Figure 81 represents a clay vessel of ancient pottery with ears inside found in Esashi, Yezo; two-ninths natural size. This drawing is taken from an article by the late Professor S. Tsuboi in the Bulletin of the Tokyo Anthropological Society (vol. IV, No. 37, March 1889, p. 227). This vessel has only two inside ears. A rough sketch of a Sakhalin clay pot with ears inside is shown by Mr. Suzuki in his work, *Karafuto Nikki*.[1] Like figure 81 this vessel also has only two ears.

82 83

Iron cooking vessels.

According to Torii (*Les Ainou des Iles Kouriles*, p. 279) fragments of pottery with ears inside the pots were found also in Japan, i. e., on the Nippon Island. Thus we see that the manufacture of this kind of primitive pottery was not limited to the Kurilian Islands and Sakhalin only. It spread all over Japan—over localities formerly inhabited by Ainos. But from nowhere, except in Kamchatka, were clay vessels with three inside handles reported.

Figure 82 shows a sketch of an iron pan from Sakhalin with ears inside the vessel. The illustration was published by Torii (*Les Ainou des Iles Kouriles*, p. 195). Figure 83 shows a drawing of an iron pot with loops on the inside surface. It is from a photograph of a piece in the Museum of the Imperial University in Tokyo, kindly forwarded to me by Professor Akira Matsumura. The cord is covered with birch bark in order to protect it from the heat of the boiling pot. It must be noted that the iron pots (figs. 82–83) have only two inside ears like the

[1] Suzuki traveled in Karafuto (Sakhalin) Island in 1853. See *Karafuto Nikki*, Shigehisa Suzuki, With Notes and Addenda by Takeshiro Matsumura, 2 vols., Tokyo, 1860.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

Aino clay pots referred to above.[1] Such iron pots, says Munro, have been found in the pits of Hokkaido (Yezo) with wares of wood and implements of stone.[2] The Yezo Ainos, he says in another place, have long been accustomed to use iron pots from Japan or Siberia, some of which had handles inside, and it is reasonable to suppose that the clay pan with handles inside was copied from the useful iron model. I wish to add to this statement that nowhere in Siberia have I seen iron pots with handles inside, and there is no doubt that such iron pots were made in Japan and copied from the more primitive model, the clay pot, and not the reverse.[3]

Plate 17, figure 2, shows the upper part of a clay pot, the three fragments of which I cemented together and which had no handles. The height of the pot and the shape of the bottom, whether flat or conical, are unknown. As this pot has no handles or holes for suspension, one may suppose that the bottom was flat, intended to rest amid the burning logs and in the ashes of the primitive hearth, which was the ground and sometimes had an enclosure of stones to confine the fire. This pot looks somewhat smoother than the pans with handles inside and its rim is decorated with four parallel lines. It was probably deeper than the shallow pans, but it was made of the same coarse clay and not subjected to a special burning. The decorative lines were made when the clay was still wet, by a bone instrument like that shown on Plate 16, figure 10. Fragments of upper parts of clay pots with decorative parallel lines are shown on Plate 18, figure 2.

A DIFFERENT KIND OF POTTERY TO THE NORTH OF KAMCHATKA

Fragments of a different kind of clay pots were found by the author in the excavations of northern Kamchatka. Plate 19, figure 1, shows pottery fragments of the Kulki site and figure 2 of the Kavran site. The majority of these fragments seems to be from small vessels, the clay to be burnt, and the pots more decorated than those of southern Kamchatka. In some cases impressions of baskets or ropes may be seen, but most of the decorations, consisting of dots, lines, zigzags and other figures, were made by the hand by means of bone or wooden implements. Holes were found in many of the pottery fragments. The holes were made differently for particular purposes; those near the upper rim were made by an awl, when the clay was still wet, and intended to serve as loops for cords or thongs for suspension over the hearth. Other holes were made by a drill in order to mend broken pieces by tying them with sinew threads and smearing over the broken lines with clay. On Plate 19, figure 1, are shown both kinds of holes on two fragments. Going farther to the north we may point to a restored clay pot, from fragments found by the writer while digging an old Koryak site. The mouth of the pot had a diameter of about 27 cm., its height must have been approximately 27 cm., and the walls were 4 to 8 mm. thick. All potsherds found in the Koryak[4] territory are quite thin, so that their manufacture had little in

[1] It must be noted that the iron pot in figure 82 has, besides inside loops, three feet evidently for putting the vessel on a table or bottom for eating.

[2] Cited from Professor Tsuboi, Tokyo Anthropological Magazine, No. 16, June 1887.

[3] The Siberian iron and copper pots and kettles, manufactured chiefly in European Russia, have handles outside the vessels or on their upper rims.

[4] See the author's work, *The Koryak*, p. 640, fig. 188.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

171 415 323 172

common with that of the thick and clumsy clay lamps and unbaked quadrangular kettles of the modern Chukchee and Asiatic Eskimo. The potsherds found in the Koryak excavations were black from soot and fat, and were evidently well baked, as they remained strong and hard, although they had been lying in the wet soil. All these potsherds were made of coarse clay containing fine gravel and pieces of quartz. The Koryak pot referred to above was molded by hand, and all over the outside are the impressions of closely woven, twined basketry. Evidently this impression was made by taking a piece of twined fabric in one hand and pressing it against the moist pot, the twined woof being placed so that the lines ran at right angles to the rim. The pot had a conical bottom and it is possible that it was intended to be supported by stones or to rest in a cavity of the hearth.[1]

Proceeding farther to the north we find among the Chukchee and the Asiatic Eskimo a pottery somewhat like that of the Alaskan Eskimo. Their elongated rectangular form is adapted to the shape of the lump over which it is hung in cooking. It may be that this form of pottery came to Alaska from Asia. Some clay kettles of the same shape from St. Lawrence Island are among the collections of the U. S. National Museum of Washington.

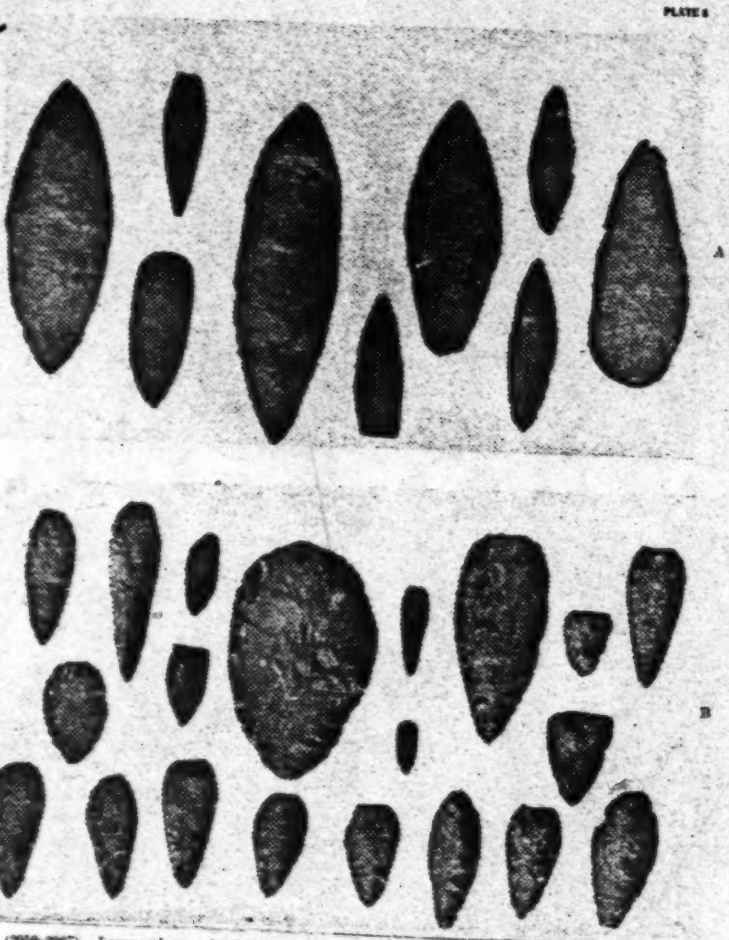
[1] We have seen before (p. 50) that neolithic sites in the Baikal Region yielded clay pots with a conical bottom which were supported on the hearth by stones. Professor Petri contends that pottery with flat bottoms appeared chiefly in the iron age. The pot with a conical bottom found by the author in a site of the Koryak territory may support Petri's supposition. On the other hand a fragment of a clay pot with a flat bottom from a neolithic site of the Ainos is shown in figure 77.

5: Jochelson A-5 (1910-11) 1928 Kamchadal

[P. 94]

172

JOCHELSON PLATE 8



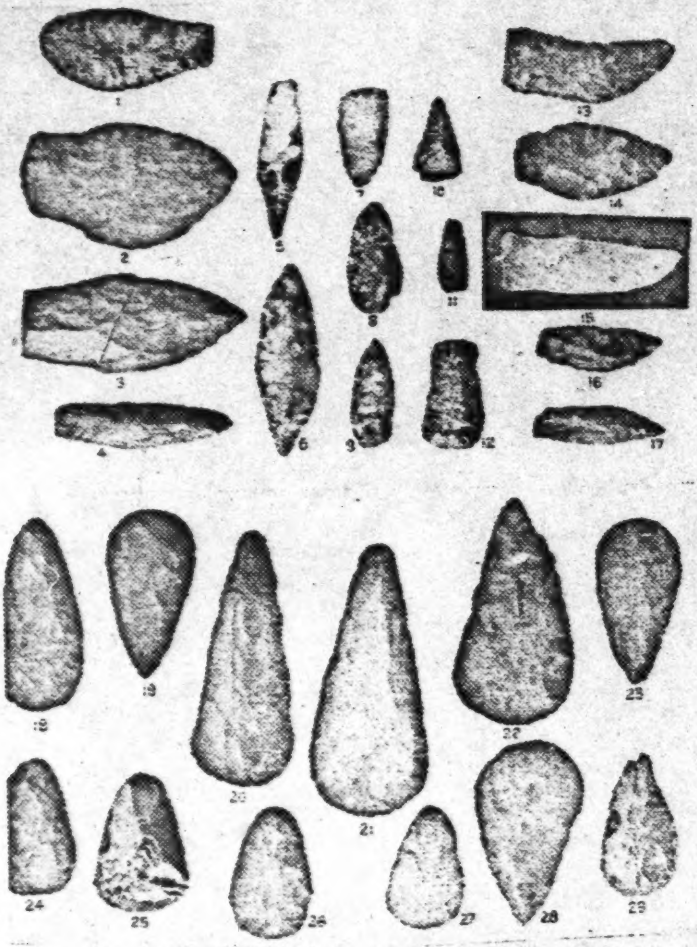
A. (2956–2967). Lance and arrow heads of quartzite. About one-half natural size; the length of the largest head is 141 mm.

B. (2956–2967). Lance and arrow heads of obsidian. About three-fifths natural size; length of the largest head is 80 mm. and that of the smallest 15 mm.

[P. 95]

JOCHELSON PLATE 7

• 172



1 (2988). Man's knife of andesite, with wooden handle.
2 (2989). Man's knife of quartzite, with wooden handle.
3 (2990). Lance head of silicified slate.
4 (2991). Arrow head of quartzite.
5 (2992). Drill point of hornstone schist, with wooden or bone handle. Used for drilling wood, bone and also sinkers of volcanic tuff.
6 (2983). Arrow point of quartzite.
7 (2994). Arrow point with straight base, of silicified slate.
8 (2985) and 9 (2986). Arrow point with rounded base, of silicified slate.
10 (2997). Drill point of hornstone schist.
11 (2998). Small arrow point of quartzite, not finished.
12 (2999). Small adze of quartzite.
13 (3000). Curved carving knife of andesite, with handle.
14 (3001). Arrow point of quartzite.
15 (3002). Curved carving knife of light-green quartz schist.
16 (3003). Small carving knife of silicified slate.
17 (3004). Small arrow point of quartzite, unfinished.
18–24 (3005–3011) and 26–28 (3013–3015). Scrapers of quartzite.
25 (3012) and 29 (3016). Scrapers of andesitic obsidian.

All obtained in excavations on Kuril Lake. About three-fifths natural size; largest specimen 93 mm. long.

[P. 96]

• 172

JOCHELSON PLATE 8

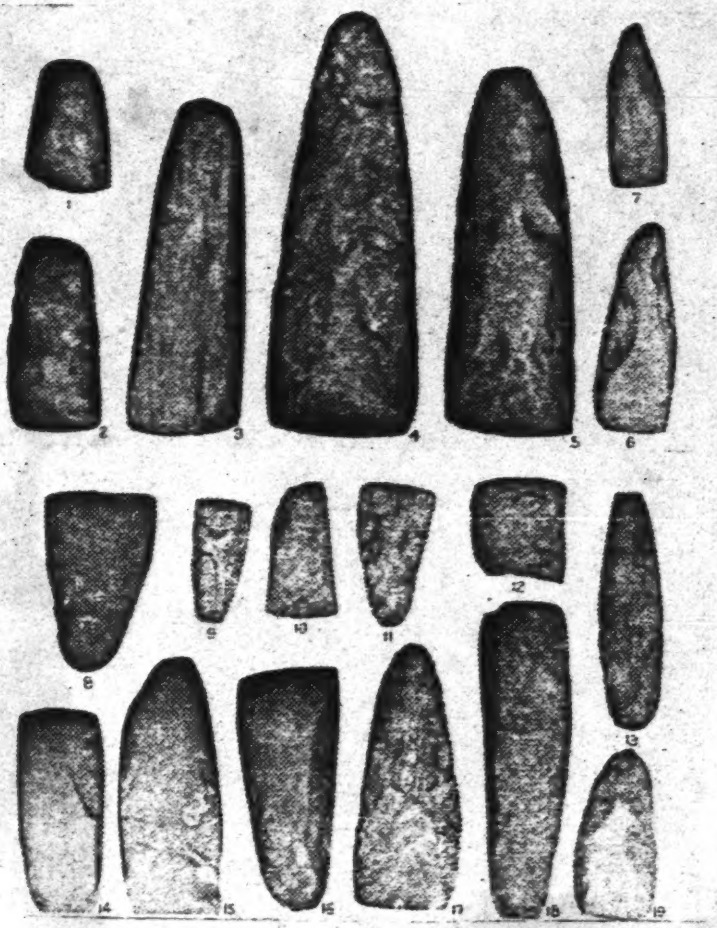
1 (3017). Andesite knife for carving wood, with projection for securing it to wooden or bone handle.
2 (3018). Andesite point of a lance.
3 (3019). Skin scraper of quartz schist.
4 (3020). Skin scraper of quartz schist.
5 (3021). Fragment of an andesite point.
6 (3022). Spear point of quartz slate, unfinished.
7 (3023). Andesite point of a lance.
8 (3024), 9 (3025), 10 (3026). Andesite point of an arrow.
11 (3027). Andesite blade of a lance.
12 (3028). Same as figure 8.
13 (3029), 14 (3030). Andesite blade of a lance.
15 (3031). Skin scraper of silicified slate.
16 (3032). Andesite blade of a lance.
17 (3033), 18 (3034). Andesite blade for an arrow.
19 (3035). Flint blade for a lance.
20 (3036). Arrow point of quartz schist.
21 (3037). Fragment of a quartz schist point.
22 (3038). Flint blade for a lance, unfinished.
23 (3039). Andesite blade for a lance.

All specimens from Kuril Lake.

[P. 97]

JOCHELSON PLATE 9

● 172

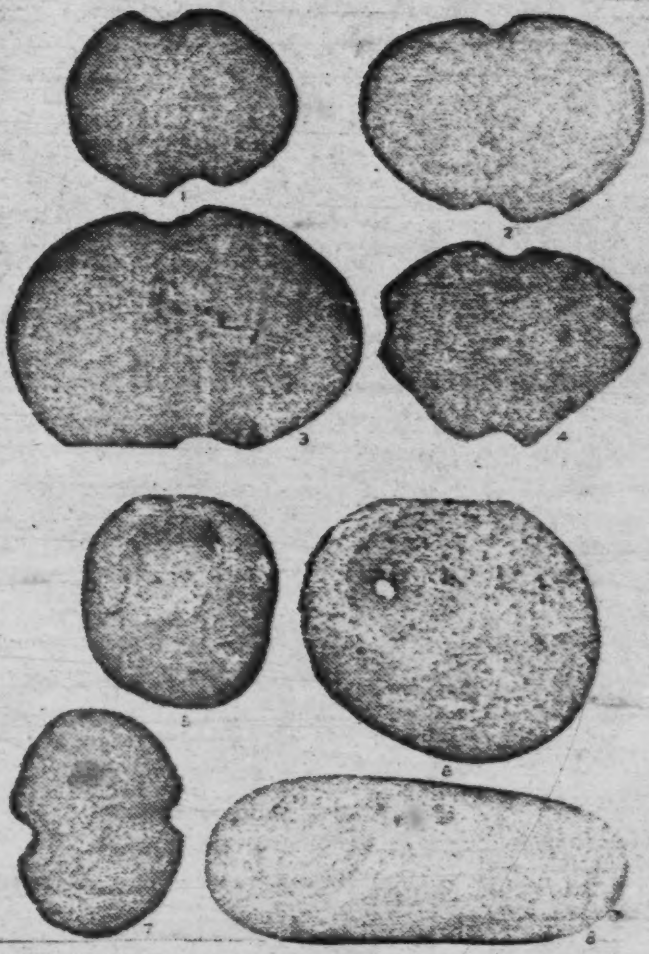


1 (3168). Adze of green quartz schist, polished. From Kuril Lake.
2 (3169). Adze of green quartz schist, blade polished. From Kuril Lake.
3 (3170). Ax of jasper, wholly polished. From Kuril Lake.
4 (3171). Ax of chalcedony (agate), partly polished. From Kuril Lake.
5 (3172). Ax of quartz schist, polished. From Kuril Lake.
6 (3173), 7 (3174). Adze of green quartz schist, polished. From Kuril Lake.
8 (3175). Adze of hornstone schist, not perfectly polished. From Kavran.
9 (3176). Adze of quartz schist. From Kavran.
10 (3177). Adze of jasper, polished. From Kavran.
11 (3178). Adze of quartz schist, polished. From Kavran.
12 (3179). Fragment of an adze of quartz schist. From Kavran.
13 (3180). Chisel of jasper, partly polished. From Kavran.
14 (3181). Adze of agate, polished. From Kavran.
15 (3182). Adze of jasper, polished. From Kavran.
16 (3183). Adze of agate, polished. From Kavran.
17 (3184). Adze of quartz schist, partly polished. From Kavran.
18 (3185). Chisel of jasper, polished. From Kavran.
19 (3186). Adze of green quartz schist. From Kavran.

The largest specimen of this plate, figure 4, is 197 mm. long.

[P. 90]

● 172



1 (3187). Fish-hook sinker of volcanic andesitic tuff from the mouth of Kavran River.
2 (3188). 3 (3189). Fish-hook sinker of quartz diorite from the mouth of Kavran River.
4 (3190). Fish-hook sinker of diabase porphyrite from the mouth of Kavran River.
5 (3191). 6 (3192). Fish-hook sinker of volcanic andesitic tuff with a drilled hole, from mouth of Kavran River.
7 (3193). Fish-hook sinker of volcanic andesitic tuff grooved all around, from Kuril Lake.
8 (3194). A stone pestle of quartzite for grinding food, from Kuril Lake.

5: Jochelson A 5 (1910-11) 1928 Kamchadal

(P.99)

ARCHIVES

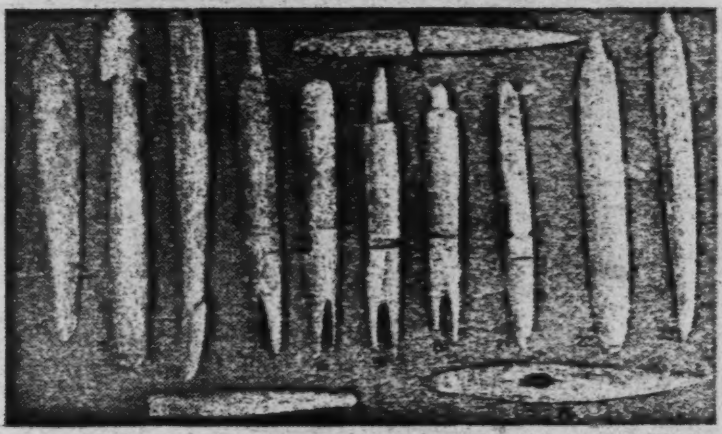
•172

1 (3210). Fish-hook sinker of quartz diorite.
2 (3211). Whetstone of porphyrite for sharpening bone needles.
3 (3212). Whetstone of slate for polishing bone implements.
4 (3213). Whetstone of porphyrite for polishing stone implements.
5 (3214). Whetstone of tachylite tuff.
6 (3215). 7 (3216). Whetstone of slate.
8 (3195). Fish-hook sinker of diabase porphyrite.
9 (3196). 10 (3197). Fragment of an adze of dark-green quartz schist.
11 (3198). Adze of green quartz schist, unfinished.
12 (3199). Adze of jasper, partly polished.
13 (3200). Drill point of hornstone schist.
14 (3201). Small chisel of light-green quartz schist.
15 (3202). Small arrow point of andesitic obsidian.
16 (3203). Fragment of an adze of green quartz schist.
17 (3204). To (3205). Adze of green quartz schist, partly polished.
19 (3206). Adze of dark reddish jasper, polished.
20 (3207). Adze of light-green quartz schist.
21 (3208). Fragment of an adze of dark-green quartz schist.
22 (3209). Chisel of quartz schist, only the edge is polished.

All the specimens of this plate were obtained in excavations on the shores of the Kuril Lake. Two-fifths natural size, the largest specimen is 132 mm. long.

[P. 102]

● 172



1 to 7 (3090–3096). Bone awls for splitting sinews of reindeer and sea-mammals into threads for sewing. Made of the bones of bird wings, mostly wild geese and swans.

8 to 10 (3097–3099). Bone awls of birds' leglones, used when sewing skins.

11, 12 (3100–3101). Bone awls made of birds' shoulder blades.

13 (3102). Awl made of wing bone of a swan. Both ends may be used when sharpened.

14 to 16 (3103–3105). Bone heads of bow arrows, partly decayed.

17 to 23 (3106–3112). Bone foreshafts of bow arrows. The stem of the foreshaft entered into a socket of the wooden shaft. A sinew cord was lashed around this joint. The upper end of the foreshaft is bifurcated to receive a stone blade. The stem of the blade was glued to the bifurcation and fastened by a sinew thread, lashed around the foreshaft, on which notches are to be seen for attaching the locking thread. The bone foreshafts are partly decayed.

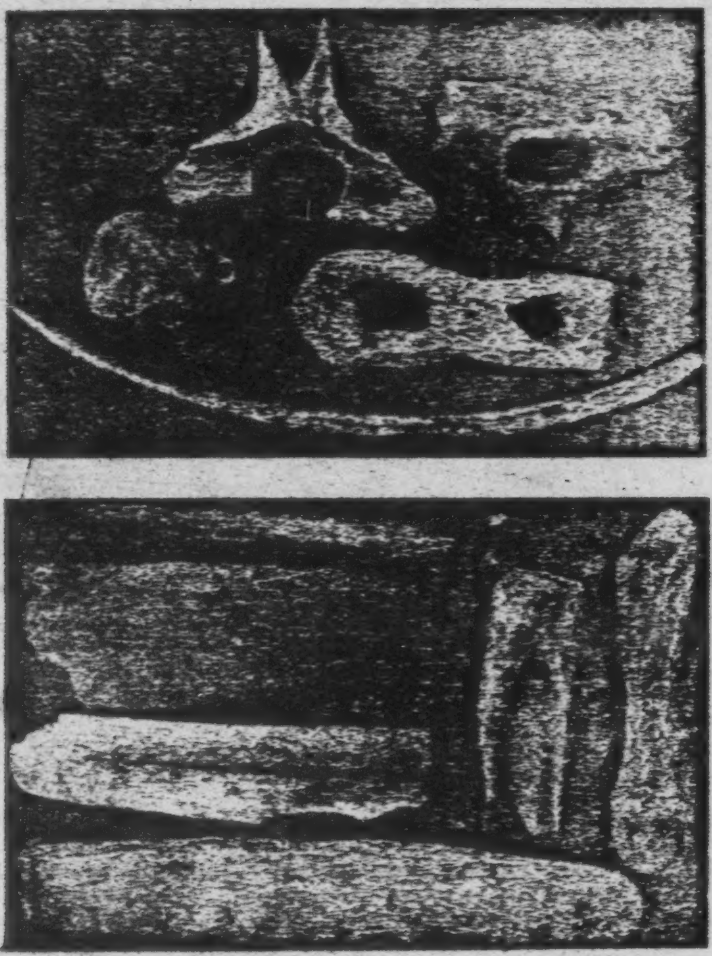
24 (3113), 25 (3114). Broken bone point which could be used as a head of an arrow of a bow or as a central prong of a dart for water birds. Figure 24 is in a decayed state.

26 (3115). Represents a head of a harpoon.

All specimens were obtained in excavations on the shores of the Kuril Lake. Three-fifths natural size.

[A 101]

172



A. 1 (3736). Bone needle-case for sewing boots.
2 (3733). Needle implement with broken-off ends.
3 (3729). Bone ball with an ear for hanging, possibly as a decoration to women's dress.
4 (3727). Bone implement for unknown purpose. It may have been used as a clasp-skewer, or to attach dogs to a post.
5 (3728). Bone root-digger.
B. (3730-3735). Fragments of decayed bone implements.

All bone implements of this plate were discovered in pits of old dwellings on the shore of Hurril Lake. Three-fifths natural size.

[P. 102]

JOCHELSON PLATE 14

172
354
324

1 (2211). Small lamp of quartz slate. Nalocheva Lake.
2 (3232). Cemented fragments of lamp of diorite. Kuril Lake.
3 (3136). Lamp of quartz slate. From Kuril Lake.
4 (3137). Lamp of quartzite. From Kuril Lake.
5 (3138). Lamp of sandstone. From Kuril Lake.
6 (3139). Lamp of quartz schist. From Kuril Lake.
7 (2921). Lamp of quartz schist. From Kavran site.
8 (2922). Lamp of quartzite. From Kavran.
9 (2923). Lamp of quartz slate. From Kavran.
10 (3143). Lamp of quartz slate. From Kuril Lake.
11 (3144). Lamp of quartzite. From Kuril Lake.
12 (3145). Lamp of quartz schist. From Kuril Lake.

Figures 1, 2 half natural size, figures 3 to 12 two-fifths natural size.

5c Jochelson A-5 (1910-11) 1928 Kamchadal

[P. 103]

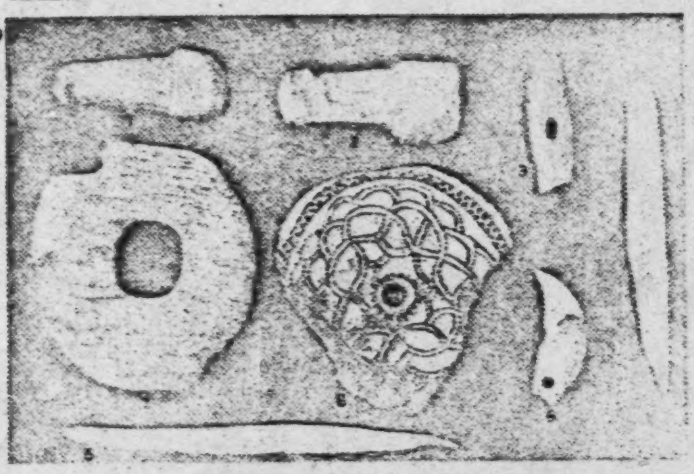
172
354

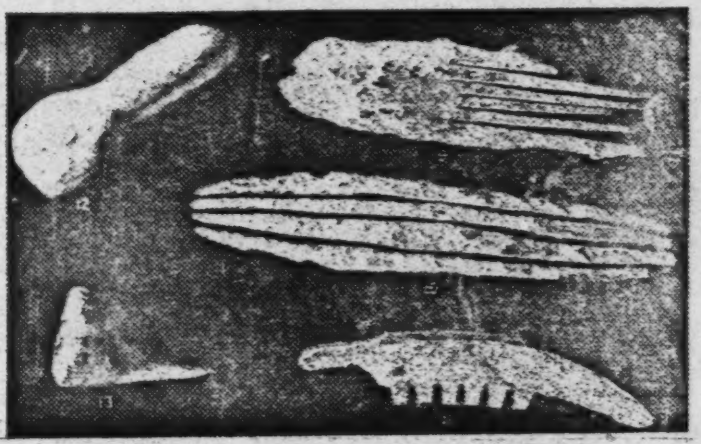
1 (3160). Lamp of andesitic lava.
2 (3161). Lamp of quartz schist.
3 (3162). Lamp of andesitic lava.
4 (3163). Lamp of quartz schist.
5 (3164). Lamp of quartzite.
6 (3165). Lamp of andesitic lava.
7 (3166). Lamp of quartz schist.
8 (3167). Lamp of quartzite.

All specimens from Kuril Lake. About two-fifths natural size.

[P. 104]

172
321

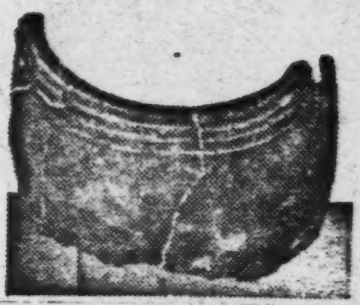


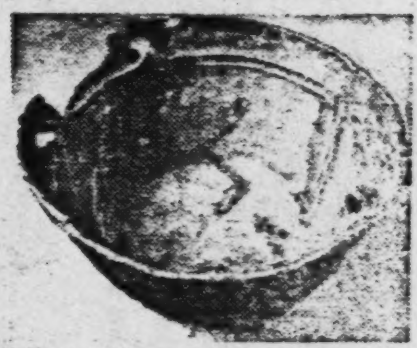


1, 2. Unknown bone implements. May be stamps to decorate clay pots when the clay is still wet.
3. Fragment of harpoon bone head.
4 and 5. Seem to be decayed bone prongs of a bird dart.
6. A perforated seal's tooth, worn as ornament.
7. Bone belt-buckle without decoration.
8. Bone belt-buckle ornamented with engraved zigzags, interwoven curves and circles.
9. Half decayed bone comb.
10. Comb-like bone implement, as it seems to the author, for impressing parallel lines under the rim of clay pots.
11. Bone implement for stamping clay pots, as shown on potsherds on Plates 17 and 18.
12. Bone implement for making fillets under the rim.
13. Bone implement for ornamenting clay pots by puncturing.

[P. 105]

172
415
323





1. Clay pot with ears inside; discovered by the author in a pit of an old Kamchadal dwelling on the shore of Nalucheva Lake. The pot was split in two pieces, but complete, and later cemented by the author. The splitting may be regarded as a result of freezing and thawing of the soil. It was discovered at the depth of 3 feet 4 inches. Digging was done with great care. When a piece of the rim appeared, the spade was discarded and the earth from and around the pot was taken out by the hands. For the dimensions of the pot see p. 8b.
2. Similar clay pot of smaller size, discovered in a pit on the Nalucheva Cape.
3. Portion of upper part of a clay pot without handles inside. It consists of three fragments cemented together by the author. No other pieces of the same pot were discovered and we do not know whether its bottom was flat or rounded. Outer parallel lines made by a comb-like implement are similar to lower parallel lines of pots with handles inside.

5: Jochelson A-5 (1910-11) 1928

[A 106]

• 172
415
323

Fragments of clay pots, some with ears inside. From Naiacheva Cape, Naiacheva Lake, and shores of Kuril Some of these fragments have no parallel lines inside.

5: Jochelson A-5 (1910-11) 1928

[A 102]

● 172
323

A (3704). 18 fragments of pottery discovered in the site of Kulki River.
B (2669–2673). 12 fragments of pottery found in excavations of the banks of Kavran River and a fragment
stone bone implement.

6:Antropova E-4 (no date) 1964 RY3 Kamchadal RY3

north to the Nalachevaya River in the south. The second included Itel'mens living from the Nalachevaya River to Cape Lopatka, as well as the "Near Kurilers." The third group consisted of the Itel'mens of the western coast of the Kamchatka Peninsula (Sedanka-Khayryuzovo). The greatest differences were between the languages of the northern and southern groups. Of the dialects of the Itel'men language, only two have survived to our time—the Khayruyuzovo and the Sedanka, which were strongly affected by Koryak and Russian.

The question of the origin of the Itel'mens remains open. The archeological remains on the peninsula have not been studied sufficiently. They are represented by semiunderground dwellings, which hold large quantities of neolithic stone implements: arrowheads, spears, hatchets, scrapers, blubber lamps, well-made bone objects and fragments of pottery. These are very close to the Itel'men implements of the 17th and 18th centuries. Similar stone and bone objects were found by the first explorers of Kamchatka—S. Krasheninnikov (1737–1742) and G. Steller (1740–44).

The first ethnographic data about the Itel'mens were provided by V. Atlasov, who made a journey to Kamchatka from the Anadyr' Fort in 1697, with a detachment of Cossacks and Yukagirs. Atlasov followed the western coast, almost to the southern tip of the peninsula, and collected the first fur-tax from the Itel'mens. He found the Itel'mens at the height of the neolithic technique in making stone and bone implements. His "tales" (reports) abound in ethnographic materials. They provide fairly detailed descriptions of the material culture (villages, dwellings, clothing, methods of preparing food, etc.), the geographic distribution, and individual features of clan organization. Especially interesting are Atlasov's data on pottery-making, for only 40 years later, S. Krasheninnikov found no traces of this occupation among the Itel'mens.

Economy, Daily Life and Social Relations

Thanks to the remarkable work of Stepan Krasheninnikov, a participant in Bering's Second Kamchatka Expedition, we have a detailed account of the material production and social order of the Itel'mens in the first half of the 18th century, when they still retained their original culture.

They were fishermen who lived in permanent settlements along rivers. Their largest concentration was in the basin of the Kamchatka River. The main fishing season was during the salmon-run, when the fish surged upstream in dense masses to spawn. They fished with nets and hooks.

Nets were woven of nettle fiber. Fish was cured, made into yukola, and pickled in pits. Fish-heads were always pickled; this was a favorite dish.

The second important occupation of the Itel'mens was hunting. Kamchatka at that time was very rich in meat and fur animals. But fur animals were also hunted primarily for meat, since there was no market for the furs. V. Atlasov reported that the Itel'mens mixed chopped sable tails with the clay when making clay utensils.

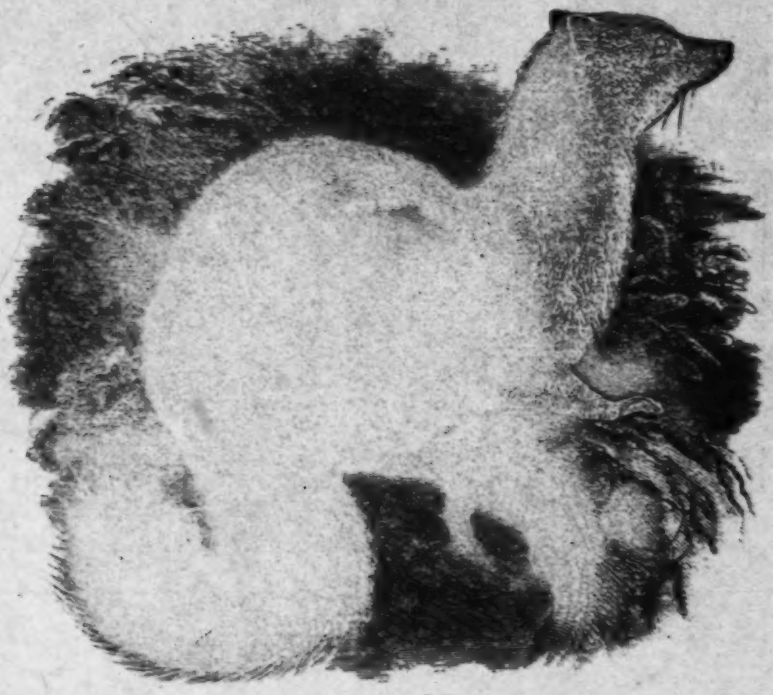
An important role in the Itel'men economy was played by sea hunting. They hunted seal, fur-seal, and sea-beaver. The southern Itel'mens also hunted whales with arrows poisoned with plant poison.

None of the northern Siberian peoples engaged as widely as the Itel'mens in gathering wild plants. Most important in their diet were the tubers of sarana (a local name for various members of the lily family), sweet grass stems, the leaves of arnica, various berries, cedar nuts, etc. Plant tubers were dug out with a special digging implement of deer horn, tied to a wooden

22: Guillemard T-2 (1882) 1886 Kamchadal

133
172

number killed by the party was close on one hundred and twenty skins. The Kronotsky Lake, which has never yet been visited by Europeans, lies south of the great group of volcanoes at the mouth of the Kamschatka River, and some sixty miles east of Melcova.[1] It is now completely deserted by the natives, but, as far as we



SABLE.

could gather from our hunters, it has remains of ancient lake-dwellings on its shores, with deposits of shells and other objects of like nature resembling the *kjokken-möddings* of Northern Europe which, as far as I am aware, are unknown in the country at the present day.

Of the number of sables killed annually in Kamschatka it is

[1] Both Melcova and the lake are wrongly placed on the Admiralty chart; the former is nearly ninety miles north of its assigned position!

G 323 171 /449 cont./ Mamia Rinsô(4), to be sure, reports about the Ainu of southern Sakhalin that they make earthenware vessels, and, to be sure, of two kinds, the A 323 [177] one of about six to seven inches in diameter with ears on two sides, tojes'ju, i.e., earthen pans, the other called kamui'sju, i.e., divine pans, but one cannot fail to recognize the recent Japanese origin of this art. In the seventeenth century, when A [175] [172] [415] Vries and his companions discovered Jesso and the nearby Kurile Islands, they saw the inhabitants of them eating from lacquered wooden bowls /450/ and quadrangular troughs (1), and just such

A [113]

1. Siebold, Aardr. en volkenkund. toelicht. tot de ontdekk. van Vries /Geographical and Ethnographical Explanations from the Discoveries by Vries/, P. 108.

bowls, but no earthenware vessels, are among the articles that Poljakof found, besides skulls and bones, in old Ainu graves on Sakhalin and presented to our museum. Concerning the ancient G 321 171 Kamchadal, one finds, to be sure, in the report of the Cossack Atlassof published by Witsen (2), the information that they

K 323 415 [113]

2. Noord en Oost Tartarye, ed. of 1705, p. 673.

manufacture for their own use earthenware and wooden vessels, but the former are more than questionable. Steller and K [172] Kraschenninnikof saw only wooden vessels among them, and Ditmar (3), while digging on the sites where their yurts had once

K [113]

3. "Reisen und Aufenthalt in Kamschatka in den Jahren 1851-1855 /Travels and Residence in Kamchatka in 1851-1855/" (Beitr. zur Kenntn. des Russ. Reiches, third series, Vol. VII, p. 246).

stood, only once found, among numerous stone tools, a small piece of earthenware, which crumbled in his hands because it had not been fired, or at most only slightly, and which he thought was a train-oil lamp shaped by hand.

4. Op. Cit., P. 184.